

FIND IT ON THE WEB, FAST! MACWORLD'S SEARCH GUIDE, P. 76

M A Y 2 0 0 0

Macworld

THE MACINTOSH® AUTHORITY
www.macworld.com

iBook® Special Edition



PowerBook 2000

MACINTOSH 2000

Get the Scoop
on Apple's
New Models



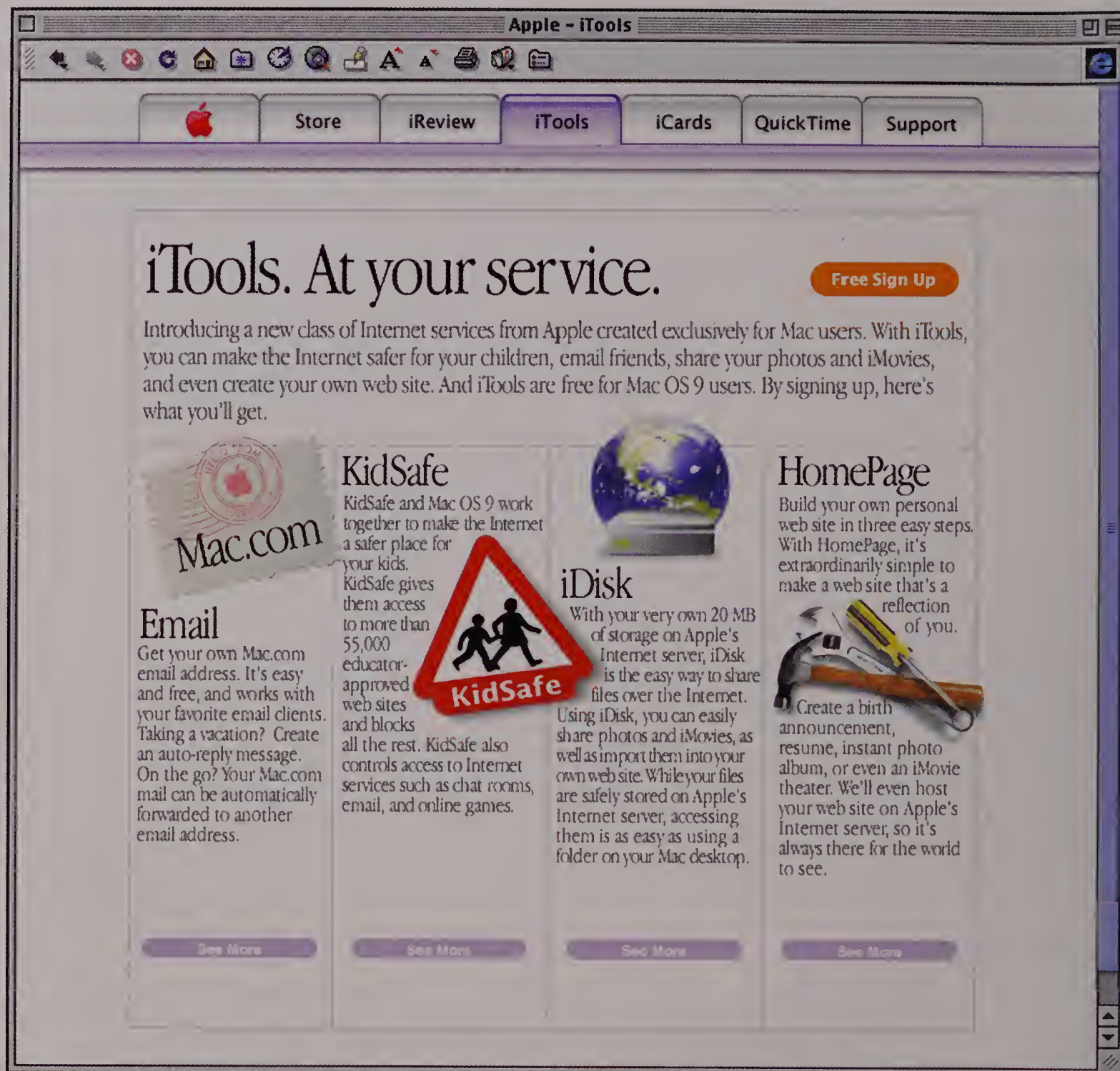
500MHz G4

\$7.98 U.S./\$9.98 Canada



7 25274 06924 8

05>



The door.

Apple now gives you a faster, easier, safer, more productive way to take advantage of what the Internet has to offer. Just visit www.apple.com and click on iTools. Now you have full-powered email (with your very own "mac.com" address), 20MB of free Internet storage space, a rock-solid way to protect your kids and a personal website you can build in minutes.



The key.

To use iTools, all you need is Mac® OS 9. (Oh, and a Mac, of course.) And upgrading gives you many new features. Like Sherlock™ 2, your personal shopper and Internet search detective. Multiple user support. And voiceprint passwords. So upgrade today and open the Internet's most powerful door. Just call 1-800-MY-APPLE or visit us at www.apple.com. 🍏 Think different.™



*The Canon
BJC-8200 Color Bubble Jet
Photo Printer*

Photos in Minutes

*No more trips to the photo lab for enlargements.
The BJC-8200 delivers professional-quality
8" x 10" photographs in approximately three minutes.**

Picture-Perfect Quality

*1,536 nozzles apply microfine ink drops just
4 picoliters in size to create
unprecedented tonal scale and complex detail.*

Unlike our competitors, this is not the first device we've made for photographers.

Introducing our latest innovation for photographers: The BJC-8200 Color Bubble Jet™ Photo Printer with 1200 x 1200 dpi resolution. Combining Canon's exclusive MicroFine Droplet Technology™ with a 1,536-nozzle printhead, the BJC-8200 gives you the freedom to print professional-quality 8" x 10" prints at your leisure. In approximately three minutes*. And using Canon Photo Paper Pro in concert with our six-color ink system, you'll get rich, glossy output that rivals the results of photo labs. In other words, we've just brought the darkroom to your desktop.

The perfect solution for any photography enthusiast, the BJC-8200 is compatible with both Mac® and PC computers. But most important, it's the only photo printer from a company that knows a thing or two about photography. For more information, visit our Web site at

www.BJC8200.com or call 1-800-OK-CANON.

Canon KNOW HOW™

1200 x 1200 Resolution

The BJC-8200's razor-sharp 1200 x 1200 dpi resolution is nearly 40% higher than ink jet printers with 1440 x 720 dpi.

Ultimate Value

With the Canon Think Tank System™, you'll save money for years to come by replacing ink tanks individually, instead of wasting the entire cartridge.

Macworld

Incorporating MacUser



Take a guided tour
inside Apple's newest
portables, page 64.

Features

Cover Story

64 Inner Beauty

BY FRITH BREITZER You can't always judge a book by its cover. Get the scoop on the big changes inside the latest iBooks and G3 PowerBooks.

70 Inside Information

BY JASON D. O'GRADY Always on the go? If you use your PowerBook or iBook on the move, our expert tips will help you get the most out of your portable Mac.

76 The Macworld Web Searcher's Companion

BY TOM NEGRINO The Web is full of useful information, and our guide to online searching shows you how to find exactly what you're looking for quickly and effectively.

LAB TEST

85 Hold Everything

BY KELLY LUNSFORD DVD-RAM drives have arrived, providing huge amounts of removable storage capacity. Macworld Lab tests six new drives and tells you which makes the best place to store your stuff.

ON THE COVER

Photography by Kevin Candland

Create

Graphics

97 Scan Right and Save Time

BY BEN LONG It's easy to clean up images in Photoshop, but good scans can make that unnecessary. Learn how to scan right the first time.

Web

101 Fireworks' New Moves

BY SANDEE COHEN Our expert shows you how to use Fireworks 3's powerful animation options.

Graphics

104 Designs with a Difference

BY CATHY ABES With a little effort, Photoshop's Difference mode can produce beautiful, unusual effects.



Find what you're
looking for on the Web with our
expert guide, page 76.



The top two ISPs duke it out for your business, page 27.

News

27 Internet Firms Fight for Bite of Apple

America Online and EarthLink battle it out for the business of Mac users.

28 Adobe Flashes Macromedia

Adobe's new LiveMotion Web design tool may challenge Macromedia's Flash.

29 More Megapixels for Your Buck

Here comes the next step in consumer digital imaging: 3-megapixel cameras.

30 G4s Go Back to the Future

Apple announced the 500MHz G4 months ago, and then it couldn't deliver. Guess what? It's baaaack.



Make a connection with these USB scanners, page 36.

Opinion

17 Letters

23 The Vision Thing

BY ANDREW GORE Warm up to a wireless world.

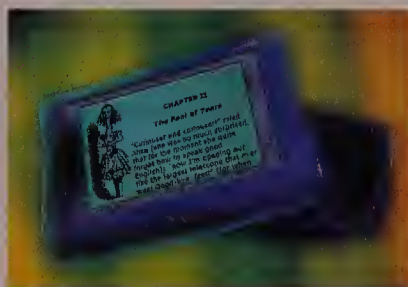
61 The Game Room

BY CHRISTOPHER BREEN Getting Mac games at the same time they're released on the PC is a great idea, right? Think again.

172 The Desktop Critic

BY DAVID POGUE It's amazing what you find when you actually take the time to read software license agreements.

14 How to Contact Macworld



With the Rocket eBook, you can take it with you, page 46.

Secrets

91 Voice-Protect Your Mac

BY TED LANDAU OS 9 lets you protect your Mac with your voice, but it's more complicated than science-fiction movies suggest.

93 Quick Tips

BY LON POOLE Tips, tricks, and shortcuts.

Reviews

- 34 1/2 Epson PowerLite 500c;
 1/2 Epson PowerLite 710c;
 1/2 Epson PowerLite 5550cc;
 1/2 InFocus LP330;
 NEC MultiSync LT84;
 1/2 Proxima LS1;
 1/2 Sharp Notevision7
 Lightweight projectors

- 36 1/2 Astra MX3;
 Canon CanoScan FB 630Ui
 USB flatbed scanners

- 38 LiveStage Professional 2.0.1
 QuickTime-authoring tool

- 40 MYOB Accounting Plus 9.0
 Accounting software

- 42 Lotus Notes Release 5
 E-mail and scheduling client

- 44 Details 3.0.1
 Project-management software

- 46 1/2 NuvoMedia Rocket eBook Pro
 Electronic book device

- 46 1/2 Unreal Tournament
 First-person-perspective game

- 48 1/2 Group Organizer 3.0.1;
 1/2 Personal Organizer 3.0.1
 Palm-compatible PIMs

- 50 1/2 Watch & Smile
 Photo-retouching and multimedia tool

- 50 1/2 DHCP Server 6.5
 IP address-administration software

- 52 Starry Night
 Astronomy software


- 52 1/2 Dazzle Digital Photo Maker
 Video- and still-capture device

- 54 1/2 DeLorme Earthmate
 GPS receiver

- 54 Neopost Simply Postage
 Postage software and printer

- 56 FotoStation 4.0
 Image-cataloging software

- 58 1/2 Star Wars: Episode 1 Racer
 Arcade game



**NO LINES. NO PARKING-LOT GRIDLOCK.
INSTANT SERVICE. 24-HOUR SUPPORT.**

WHAT KIND OF STORE IS THIS?

The shopper-friendly kind: a Virtual Printer Store. You don't get here by car or bus. You come by phone or mouse instead. And you couldn't stand in a line, get lost in a crowd, or be ignored by a store clerk if you tried.

At The Virtual Printer Store you buy your printer direct from the people who made it. So you pay only for what you need (the printer), and not what you don't (the middleman).

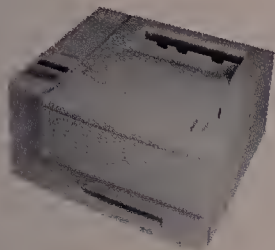
And there's another important difference after you leave. At conventional stores you get demoted from customer to stranger. At ours you become a virtual client.

We offer unlimited technical support 24 hours a day,

7 days a week – for the entirety of the one-year warranty. And if you run up against a problem we can't solve, our Platinum Exchange Warranty Program guarantees you a replacement printer by the next business day. (All our printers come with a thirty-day, money-back guarantee as well.)

Finally, we offer printers good enough to sell themselves – because they have to. Printers that turn out vivid halftones, poster-sized graphics, printshop-quality text, and perform various other noteworthy feats noted below.

Now, what are your chances of finding a conventional store that offers all that? Virtually nonexistent.



ELITE 12 N Series

12 pages per minute
600 x 600 dpi resolution
Maximum Print Area 8.5" x 14"
Letter, legal, envelope
250-sheet Universal Tray
PostScript® Level 2 compatible, PCL 5
35 PostScript fonts, 15 PCL fonts,
45 downloadable fonts
RAM expandable to 64 MB
1st year Platinum Exchange
EtherTalk®, TCP/IP
USB, Ethernet (10 BaseT),
Bi-directional Parallel

2nd Paper Feeder¹
(includes 500-sheet Universal Tray) Add \$299

2nd year Platinum Exchange³ Add \$99

\$849

Also available in LocalTalk® version

\$949

1200 dpi version



ELITE XL 20 Series

20 pages per minute
600 x 600 dpi resolution
Maximum Print Area 12.6" x 35.1"
Letter, tabloid, legal, envelope, poster
500-sheet Universal Tray
PostScript Level 2 compatible, PCL 5
35 PostScript fonts, 15 PCL fonts,
250 downloadable fonts
RAM expandable to 64 MB
1st year Platinum Exchange
EtherTalk, LocalTalk, TCP/IP
Ethernet (10 BaseT, AAUI),
Bi-directional Parallel

2nd or 3rd Paper Feeder²
(includes 500-sheet Universal Tray) Add \$329

2nd year Platinum Exchange³ Add \$179

\$1599

Lease \$56 Month/36 months⁴

\$1899

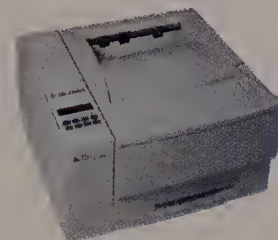
800 dpi version

Lease \$67 Month/36 months⁴

\$2199

1200 dpi version

Lease \$77 Month/36 months⁴



ELITE 12/600 USB

12 pages per minute
600 x 600 dpi resolution
Maximum Print Area 8.5" x 14"
Letter, legal, envelope
250-sheet Universal Tray
PostScript Level 2 compatible, PCL 5
35 PostScript fonts, 15 PCL fonts,
45 downloadable fonts
RAM expandable to 64 MB
1st year Platinum Exchange
USB (cable included),
Bi-directional Parallel

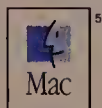
2nd Paper Feeder¹
(includes 500-sheet Universal Tray) Add \$299

2nd year Platinum Exchange³ Add \$99

\$799



TO ORDER CALL 1.800.422.7777 OR VISIT WWW.THEVIRTUALPRINTERSTORE.COM
Circle 43 on card or go to www.macworld.com/getinfo



¹Supports one additional paper feeder. ²Supports two additional paper feeders. ³Platinum Exchange pricing is at point of purchase only. ⁴Leasing provided by independent leasing companies to qualified customers. Lease payments based on 36-month terms. Lease terms subject to change without notice or obligation. ⁵All GCC printers are Mac OS compatible. ⁶Windows certification is for the 20 Series printers only. GCC Technologies is a registered trademark of GCC Technologies, Inc. Elite and The Virtual Printer Store are trademarks of GCC Technologies, Inc. All other trademarks or registered trademarks are trademarks of their respective companies. Pricing and specifications valid only in the U.S. (110V printers) and subject to change without notice. For international orders, please contact local distributors. ©2000 GCC Technologies.

Keycode 005MWD1

GCC TECHNOLOGIES
THE VIRTUAL PRINTER STORE™

Conquer Disk Damage



Introducing DiskWarrior™, a revolutionary new way to restore damaged disks!

DiskWarrior is a revolutionary new utility that combats disk damage. It quickly rebuilds, recovers and optimizes your HFS and HFS Plus disk directories, eliminating all directory errors and recovering lost files. Other utilities attempt to repair disks by patching the damage. Patching can result in more damage and permanent loss of files.

100% Recovery Assurance

Only DiskWarrior builds a new optimized directory using data recovered from the damaged directory. You have 100% assurance that DiskWarrior will always restore your disks and recover your files when directory damage is your enemy.* You'll also have 100% confidence that you're getting the desired results. DiskWarrior's exclusive Preview ability lets you preview the restoration. You can examine your damaged disk in the Finder as it will appear after the directory is restored but before any changes are made to your disk.

Routine Maintenance

DiskWarrior is your first line of defense against unseen disk damage. Running DiskWarrior regularly prevents small unseen problems from becoming large ones by keeping your directories error free. You'll also keep your directories optimized to speed up overall disk performance.

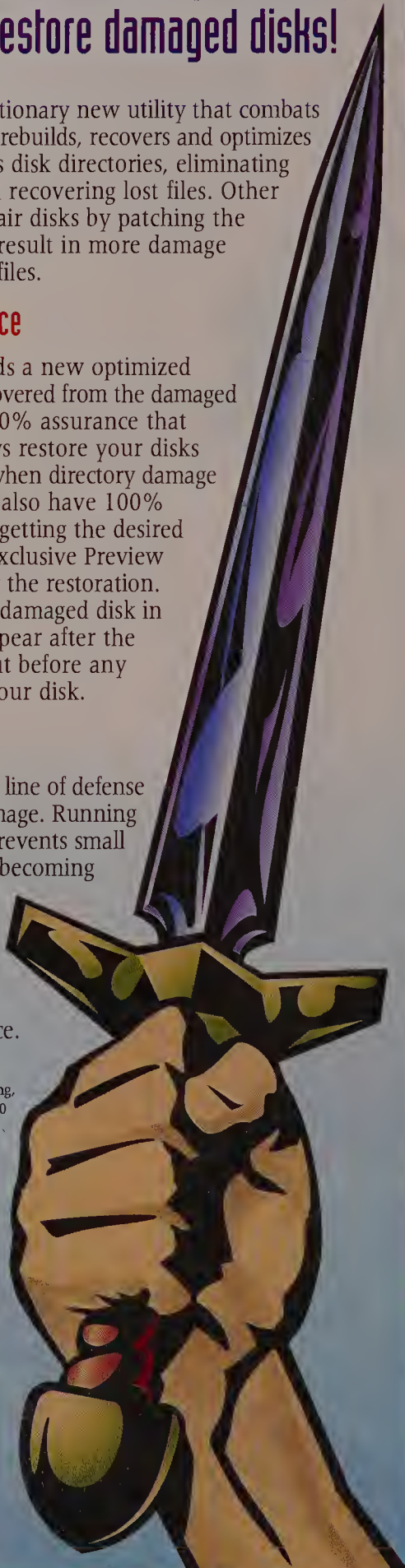
©1998 Alsoft, Inc. PO Box 927, Spring, Texas 77383-0927 USA. 281-353-4090 or fax 281-353-9868. DiskWarrior is a trademark of Alsoft, Inc. *Visit our web site or call for requirements. DiskWarrior is not a magician. No utility can restore directories that have been written over.



THE UTILITY COMPANY

ALSOFT

www.alsoft.com 800-257-6381



Circle 140 on card or go to www.macworld.com/getinfo

Macworld

VP OF CONTENT/EDITOR IN CHIEF	Andrew Gore
EXECUTIVE ASSISTANT TO THE VP OF CONTENT	Shane Clark
EDITOR	Michael Penwarden
EDITOR, MACWORLD.COM	Jason Snell
SENIOR EDITOR, DEPARTMENTS	Nancy Peterson
SENIOR EDITOR, FEATURES	Scholle Sawyer
SENIOR EDITOR, PRODUCTS	Stephen Beale
SENIOR EDITOR, REVIEWS	Linda Comer
SENIOR EDITOR, MACBUY.COM	Suzanne Courteau
SENIOR EDITOR, MACWORLD.COM	Lisa Schmeiser
ASSOCIATE EDITORS	Philip Michaels, Terri Stone
ASSISTANT EDITORS	Frith Breitzer, Brett Larson, Kelly Lunsford, Jonathan Seff
EDITORIAL ASSISTANT	David Read

CONTRIBUTING EDITORS

Henry Bortman, Christopher Breen, Bruce Fraser, Jim Heid, Ted Landau, Deke McClelland, Tom Negrino, David Pogue, Lon Poole, Stephan Somogyi, Franklin N. Tessler

LAB

LAB DIRECTOR	Kristina De Nike
SENIOR LAB ANALYSTS	Jeffy K. Milstead, Kevin Mitchell
LAB ANALYST	Gil Loyola
INVENTORY COORDINATOR	Ulyssis Bravo

COPY EDIT

ACTING MANAGING EDITOR	Paul-Michael King
COPY CHIEF	Jon Zobenica
COPY EDITOR	Charles Purdy

ART AND DESIGN

DESIGN DIRECTOR	Eleanor Leishman
ART DIRECTOR	Sylvia Chevrier
ASSOCIATE DESIGNERS	Jackie Goodman, Jonathan Woolson

INTERNATIONAL EDITORS

Steven Noble, Australia; Bernard Le Du, France; Andreas Borchert, Germany; Enrico Lotti, Italy; Yoshio Moriya, Japan; Tomasz Bitner, Poland; Daniel de Blas, Spain; Nils Holmlöv, Sweden; Anderson Huang, Taiwan; Bahattin Apak, Turkey; Simon Jary, United Kingdom



Franck Gaget
Financial Analyst



All my soccer teammates, European league team rosters & stats.



Quarterly budgeting meeting, 10:00 am; next season's entire TV game schedule.



Notes for divisional spreadsheets; my World Cup video library database.



Send team e-mail w/updated schedule; download player photos from Web.



Synchronize and back up my Palm Vx™ handheld with my Mac.
With just one touch.

Simply Palm.

www.palm.com

Palm, Inc.

PalmConnect™ kit required for Macintosh connectivity, sold separately. ©2000 Palm, Inc. All rights reserved. PalmConnect and HotSync are registered trademarks and Palm, Palm Vx, Simply Palm and the HotSync and Palm logos are trademarks of Palm, Inc. or its subsidiaries.

So Many Choices!

AnthroCarts!

Modular, Mobile and Strong.



You tailor your own AnthroCart. With so many models, and lots of accessories, you can make it fit anyone and any space. And change it when your needs change. Plus you can't beat its Lifetime Warranty. Suit yourself! Come visit our web site or call us!



Call us for a free catalog at
800-325-3841

6:00 AM to 6:00 PM PST, M-F

www.anthro.com

Anthro Corporation® Technology Furniture® Since 1984.

Macworld

PRESIDENT AND CEO	Colin Crawford
ASSISTANT TO THE CEO/OFFICE MANAGER	Elizabeth Lilly
OFFICE ASSISTANT	Franck Zamora
VP/CHIEF FINANCIAL OFFICER	Stephen Daniels
BUSINESS MANAGER	Eos de Feminis
ACCOUNTING COORDINATOR	Ronda Bittner
BILLING MANAGER	Ricardo Sandoval
DIRECTOR OF HUMAN RESOURCES	Sue Murphy
IT MANAGER	Michael Talbot
ASSISTANT IT MANAGER	Michael Dawson
IT SPECIALIST	Jose "Peps" Jara

DISPLAY ADVERTISING SALES

VP OF SALES/PUBLISHER	Steve Plevin (415/243-3509)
ASSOCIATE PUBLISHER, EAST	Cynthia Ramsey (973/243-1197)
NATIONAL SALES DIRECTOR	Liz Pabón (415/243-3526)
SALES & MARKETING COORDINATOR	Laura Ross (415/243-3642)
SALES ASSISTANT	Katherine Lebioda (415/243-3577)
SALES ASSISTANT	Brock Keeling (415/243-3662)
NATIONAL ACCOUNTS MANAGER	Jessica Ross (415/243-3583)
ACCOUNT EXECUTIVE	Coretta Wright (415/243-3615)
NATIONAL ACCOUNTS MANAGER	Sara Culley (970/327-4499)
ACCOUNT EXECUTIVE	Margaret Level Green (415/243-3582)
NATIONAL ACCOUNTS MANAGER	Paul Bonarrigo (508/533-4020)
ACCOUNT EXECUTIVE	Jo Zottarelli (631/277-4134)
SHOPPER ACCOUNT MANAGER	Niki Stranz (415/243-3664)
SHOPPER ACCOUNT MANAGER	Carol Johnstone (415/243-3691)
SHOPPER ADMINISTRATIVE ASSISTANT	Alissa Mach (415/243-3628)

MARKETING

MARCOMM MANAGER	Sharon Sanderson
ONLINE MARKETING MANAGER	Savraj Benedict
MARKETING EVENTS COORDINATOR	Tara James

PRODUCTION

PRODUCTION DIRECTOR	Cynthia Neustadt
DIGITAL AD COORDINATOR	Alan Anzalone

Macworld is a publication of Mac Publishing, L.L.C. Macworld is an independent journal not affiliated with Apple Computer, Inc. Macworld, MacUser, MacWeek, Macworld Interactive, Macworld Shopper, MW, MW Lab, MW Shopper, The Desktop Critic, Expert Graphics, Quick Tips, Star Ratings, Buyers' Tools, Streetwise Shopper, and Conspicuous Consumer are registered trademarks of Mac Publishing, L.L.C. Apple, the Apple logo, Mac, and Macintosh are registered trademarks, and MacLetter and PowerBook are trademarks, of Apple Computer, Inc. Printed in the United States of America. Copyright © 2000 Mac Publishing, L.L.C. All rights reserved.

What's your sign?

VST makes peripherals compatible with your computing wants and needs. Whether your computer is FireWire® or USB based, we offer products that perform well *and* look good.

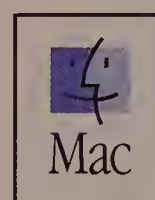
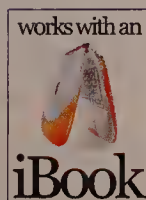
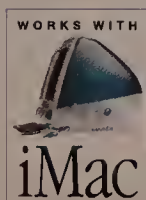
Our FireWire® Hard Drives and Zip® Drives as well as our USB Hard Drives and Floppy Drives offer such benefits as high-speed data transfer rates, flexible connectivity, easy transportability and hot-swappable capabilities.

Visit our web site at www.vsttech.com to get more information on these and other products from VST.



VST

125 Nagog Park, Acton, MA 01720
www.vsttech.com ■ (978)263-9700



Omega, the Omega logo, Zip, and The Capacity To Do More, are trademarks of Omega Corporation. All other trademarks are property of their respective holders. Omega patents protected by patent applications pending in the US and other countries. Apple, Mac, Macintosh, the Mac OS logo, PowerBook, and iBook are registered trademarks of Apple Computer, Inc.

Project Scheduling Made Easy!

DON'T TELL MY BOSS

**NEW
Version 6.03**

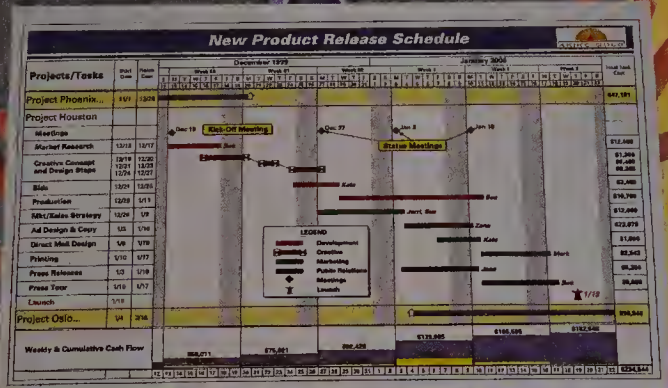
- ExpressDate™ • FastSteps™
- Open/Export MS Project MPX files
- Full AppleScript Support
- Histograms • Hyperlinks
- and more!

I'm not a project management expert, but everyone thinks I am. Most of my time is spent completing tasks, so I need a scheduling tool that's easy, fast, and flexible.

FastTrack Schedule 6.03 fills the bill. It keeps me organized and in control displaying all my project details in rich, colorful timelines. FastTrack Schedule provides just the right amount of power because it's more sophisticated than day-planners, but *easier to use and half the price of traditional, high-end project managers.*

\$199*

The presentation-quality schedules clearly illustrate project objectives and deadlines keeping team members and clients informed and up-to-date. In a single schedule, I can outline multiple projects, make assignments, track cash flows, set-up dependencies—even add graphics. Whether I use it once a week or every day, FastTrack Schedule makes project scheduling easy.



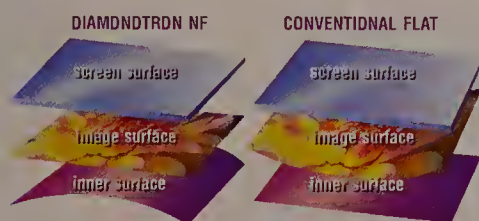
Until Now Your View Of The World Has Been Distorted.



The award-winning Diamond Pro 900u (19-inch CRT/18.0-inch DVI*) is truly distortion-free with a perfectly flat screen surface.

If you're using a conventional CRT monitor, your eyes and brain are working overtime to correct for the curvature. Now, however, with its DIAMONDTRON NF™ (Natural Flat) family, Mitsubishi has completely revolutionized monitor technology. With a perfectly flat screen from edge to edge and truly distortion-free imagery, you'll experience an unprecedented improvement in viewing pleasure. Not to mention the dazzling brightness, razor-sharp clarity and stunning color accuracy which puts Mitsubishi in a class by itself. With no curvature, reflections and glare are also eliminated. The result is remarkably realistic, natural-looking flat images. Your energy can now be spent being more creative and more productive. For added versatility, DIAMONDTRON NF monitors feature a unique self-powered USB

DIAMONDTRON NF



hub which allows you to switch all connected USB peripherals between two computers automatically. With DIAMONDTRON NF monitors, Mitsubishi will forever change your view of the world. The difference is right before your eyes. For more

information on the award-winning Diamond Pro 900u (19-inch CRT/18.0-inch DVI*) and new Diamond Pro 2020u (22-inch CRT/20-inch DVI*) models, contact Mitsubishi Electronics today.

MITSUBISHI
DISPLAY PRODUCTS
Innovation On Display_{sm}

USA: 800-843-2515 • Canada: 800-387-9630 • QWIKFAX: 800-937-2094 • www.naturalflat.com/pb/nwd/nf

See the difference at:

COMPUSA
THE COMPUTER SUPERSTORE
1-800-COMPUSA
www.compusa.com

Fry's
ELECTRONICS

MICRO CENTER
THE COMPUTER DEPARTMENT STORE

DIAMOND SHOWCASE
800-843-2515

PC WORLD
WORLD CLASS

Macworld
EDITOR'S CHOICE
★★★★

CADENCE LAB
00000
verdict

PC
MAGAZINE
EDITOR'S CHOICE

1998
Eddy
WINNER

Desktop Publishers
1/2

Diamond Pro 900u
July 1999

Diamond Pro 2020u
June 1999

Diamond Pro 2020u
June 1999

Diamond Pro 900u
Jan. 19, 1999

Diamond Pro 900u
March 1999

Diamond Pro 900u
February 1999

Best 19" upgrade
March 9, 1999

Job Opportunities

Web Designers • Washington DC •

Web Designers please respond if you dream in Photoshop and Illustrator, were born to Flash dance, can HTML or DreamWeave blindfolded with one hand tied behind your back, and can play Quark better than B.B. King can play the blues. Last but not least you must be able to submit an online portfolio dressed to impress.

Director of Creative Services • Dallas •

Lead the Design Department in translating concepts into commercial art. Our client is looking for a "hands-on" creative designer with strong managerial skills, the ability to work effectively with Senior Management and customers and the poise to meet deadlines in a fast-paced environment.

Systems Administrator • Boston • If you are a technical specialist who enjoys solving application issues, are eager to learn new technologies, and are able to juggle the technical problems of 70 creative minds, this is the position for you. You should have Windows and Macintosh experience, an understanding of networks and backup systems, and desktop publishing and graphics knowledge.

<http://www.hireknowledge.com>

Web Art Director • Baltimore • Work in a great office on the water in downtown Baltimore! Cutting-edge design company is seeking a skilled designer with 7-10 years of experience in web & print design to lead team. Ideal candidate will possess expertise in HTML, Photoshop, DreamWeaver, Flash, and FireWorks. Experience designing e-commerce and retail sites required.

Web Content Editor • San Francisco • Web Content Writer/Editor needed for well-funded "start-up" (or rather, a new branch of a well-established Internet portal) needed ASAP. Human Resources experience a big plus. Excellent benefits and stock options offered.

Web Programmers • St. Louis • We need tricked-out, back-end web programmers — ones who can write straight HTML and Java code, and who have professional experience with JavaScript, ASP, SQL and Visual basic. Flash experts please report immediately as well.

Multimedia Designer • Chicago • New media firm in Chicago is always looking to hire experienced staff. This interactive firm generally requires a minimum of two years agency experience in either an interactive or traditional environment along with one year in new media. Excellent communication skills required along with a meticulous attention to detail.

Business Graphic Artists • Philadelphia • Center City firm is seeking designers who can give corporate communications a creative flair. Proficiency in PowerPoint and PageMaker required. A flexible schedule would be helpful.

Production Wizards/Sorceresses • Washington DC • We seek magic-workers who have mastered Quark, Photoshop and Illustrator. Call us if you have conjured a print portfolio that demonstrates quality publications, logo design, corporate collateral, and marketing pieces that would put a spell on us.

Graphic Designers • St. Louis • Design and production experts are always welcome to apply for a variety of ongoing full- and part-time positions. Top-notch skills in Quark, Photoshop and Illustrator and grace under pressure are what we are looking for.

HireKnowledge Manager • Chicago • At HireKnowledge, we help companies fill positions that require specialized computer skills. Working here will give you experience in interviewing, sales, and management — but that's just the beginning! You will gain a strong understanding of today's fast moving technology in the areas of Graphic Design, internet Design and Development, and Information Technology. We are looking for good listeners who can effectively interview candidates as well as work with clients to assess and fulfill their staffing needs. If you are a self-starter with an entrepreneurial spirit we want you on our team!

Locations

Baltimore	Philadelphia
Boston	Providence
Chicago	San Francisco
Dallas	St. Louis
New York	Washington DC

800-937-3622

call us

HireKnowledge

putting intelligence to work

Book Designer • Baltimore • Large national book publisher is seeking a designer with Quark skills as well as experience writing specs for traditional book publishing. The position involves designing interiors as well as covers.

MAC/PC Help Desk • Providence • RI company looking for MAC/PC gurus. Extensive knowledge of networking, operating systems, and cross-platform connectivity. Knowledge of hardware/software for upgrades and troubleshooting.

HireKnowledge

<http://www.hireknowledge.com>

Letters

Forget Those MP3 Players

I RECENTLY READ *MACWORLD*'S article about MP3 players ("MP3 to Go," February 2000), and I don't see that portable MP3 players are practical yet. Unless you're looking for the latest gadget, they aren't worth the plastic and metal they're made of. You can barely get any music on the meager amount of RAM they provide, and the expandable flash cards are very expensive.

Personally, I am sticking with Mini-Discs. I bought a recorder and a player for under \$300, and I hooked the recorder up to my stereo and my computer. It's the best thing I've ever had. I never have to worry about encoding, file formats, or download time. If my computer or stereo can play it, I can record it. The player is about the size of a portable MP3 player, and the discs are \$3 to \$5 each and come in 60- or 72-minute lengths.

Please let people know about alternatives before they get trapped in the expensive world of portable MP3 players.

PERRY KRUG
Glen Head, New York

Fireworks or Bust

I WAS PLEASANTLY SURPRISED TO see *Macworld*'s two-page spread on Macromedia's Fireworks 3 ("Fireworks 3 Fights Back" in "Wake Up Your Web Sites," February 2000), but I knew to expect ill-informed comparisons to Adobe Photoshop and poor explanations of Fireworks' stellar new features.

Still, I am constantly amazed by the tenacity of die-hard Photoshop fans. Yes, Photoshop is a good tool—a good *print* tool—but no matter what add-ons and combinations Adobe rolls up into its



big, expensive image-editing application, nothing beats Fireworks for Web graphics creation and production.

Often, Kathryn Lunsford compared Fireworks' features to Photoshop's in a second-cousin, cheap-imitation kind of way. And the Fireworks sidebar showed that she doesn't really use Fireworks. Contrary to what she wrote, tools for editing bitmapped images existed prior to version 3; they just didn't look like Photoshop's. Also, you cannot use Photoshop's Spherize filter within Fireworks, not even in the new version.

Many people say I am a fanatic Firebug, and they're right. Macromedia really has its act together.

DONNA CASEY
Oakland, California

While it's true that bitmap image-editing tools such as Sharpen and Brighten were available in earlier Fireworks versions (through the Xtra menu), these functions were quite limited.—Kathryn Lunsford

AirPort Review Doesn't Fly

MACWORLD'S REVIEW OF THE AirPort was incomplete and lacked hard facts (*Reviews*, February 2000). For one thing, the article made no mention of IEEE 802.11, the wireless standard on which the AirPort is based, or of Apple's claims that the AirPort is compatible with other IEEE 802.11 products. An actual test of the AirPort's ability to work with other 802.11 products would have been very valuable.

Furthermore, your testing process seemed vague. What does "marched around a large office and took an elevator down one floor" mean? You didn't give any details or address how obstructions affected the AirPort's performance.

I understand that you're limited by the time and the space you have for a product review, but that is no excuse for one that lacks real data. Next time, try spending more time doing a useful review instead of just playing with a cool new toy.

JAMES L. SCHEK
Sacramento, California

Left-Hand Discrimination

MANY COMPANIES, INCLUDING Microsoft, are making state-of-the-art mice (*Reviews*, February 2000), but few of them are designed for people who are left-handed.

I use a right-handed mouse with my left hand in order to take advantage of its scrolling feature, which isn't available for lefties. While it's not unusable, certain maneuvers are quite awkward.

Now the latest mouse breakthrough—Microsoft's optical tracking system—caters only to the right-handed. But your *continues*

review of the IntelliMouse Explorer makes no mention of this, even though the problem affects millions of people.

BEN THIELSEN
Staten Island, New York

What's the Password?

JOSEPH SCHORR'S ARTICLE ON keeping track of passwords was a nice read ("Battle Password Amnesia," *Secrets*, February 2000). The "set it and forget it" mentality that so many people employ often comes back to haunt them when they're not in their usual environment.

But I found it shocking that he suggested using a random word from a book or dictionary as a universal password. The problem with that is obvious: someone who learns that one password then knows them all, and hackers often use dictionary programs to crack passwords. Some systems won't even let you use a real word as a password, and I don't see why Mac users should be any less diligent.

I'd like to offer a method for remembering passwords that has served me well for over ten years: acronyms related to the access point in question. For example, with an animal-care Web site, you could make up a phrase based on the names of your cats, such as: "Dusty and Mittens are two healthy kittens." Reduce that to *DaMathk* (choose your own case sensitivity), and you have a secure password. You can also make substitutions in obvious places—*two* becomes 2 and *for* becomes 4—to improve security. Ugly? You bet. Memorable? I've yet to forget one.

JOE CREIGHTON
Starbuck, Manitoba, Canada

Perils of This Modern Life

PLEASE TELL ME ANDREW GORE IS kidding ("Time Bandits," *The Vision Thing*, February 2000). If he's not, then I have to assume he's bought the hype. The media would have us believe that life is becoming increasingly more difficult and complicated—certainly much tougher than the lives our parents and grandparents led. And Gore takes the bait: "Our lives are complex, and they're getting more complex by the minute. Work, family, friends, hobbies, travel—the slate is very full, and that's before you add in all the things that technology enables us to do."

Since when does enjoying greater speed and efficiency equal having less time? We all make choices for our own lives, and nobody makes us use iMovie, surf the Web, produce newsletters, or anything else.

Gore says we're running out of time to enjoy our lives. Nonsense. What we're running out of is the courage to take responsibility for how we spend our own lives.

DOUGLAS R. KELLY
Silver Spring, Maryland

I JUST READ GORE'S FEBRUARY COLUMN, and I found it reassuring. Technology lets us do more things more easily and faster than we could ever imagine. But while I like my iMac, I harbor misgivings about technology. I am a commercial photographer, and computers have allowed me—*forced* me might be a better way to put it—to close my studio, work from home, and fire my assistant and my studio manager. Is my life better? Not much, if at all. I just have to work faster, harder, and cheaper. If anything, I am achieving a level of mediocrity that I find reprehensible. My photographs are no better for all the new technology.

Computers allow us to do things we never thought imaginable just a few years ago. But often the quality of what we produce suffers when we strive to do it faster and cheaper. Just because you *can* do something doesn't mean you *should*.

JAMES BURT PITTMAN
Southaven, Mississippi

Internet Games for the Rest of Us

SINCE WE'RE PROBABLY OF ABOUT the same generation as Christopher Breen's parents, we appreciated his column about more-traditional games (*The Game Room*, February 2000). However, we would like some clarification about the ability to play some of these games over the Internet. Sierra's Web site says that Internet play for its games is not available on the Mac.

Did Breen actually play these games over the Internet on a Macintosh? If it's possible, why is this capability not available to us?

RICH AND NOEL DE LUNA
Blue Ridge Summit, Pennsylvania

Sierra claims to be working with WON.net to make its Mac games Internet-playable, but this feature, if offered, won't be implemented until after the fall of 2000.—Christopher Breen

DAO Nearly DOA

YOUR RECENT REVIEW OF TOAST 4.0 Deluxe (*Reviews*, February 2000) inspired me to buy it. The disk-at-once (DAO) feature, which allows users to blend tracks together without pauses, was one of the clinchers for me. However, I find it strange that you fail to mention Adaptec's poor documentation on how DAO works. There is no DAO setting named as such within the Toast application. My first attempt to write a DAO CD-R led to system errors and other glitches. I have seen many postings complaining about DAO on user forums.

I think Toast 4.0 Deluxe is a good value and has many new and useful features. However, Adaptec must resolve users' problems with the DAO feature.

ROY HONEGGER
Lake Zurich, Illinois

Macs Not Welcome Here

I'M WRITING ABOUT AN ALARMING observation I've made. Despite the promise of a platform-independent Internet, I have discovered many online services that are not Mac compatible.

For example, the government of Oakland, California, has started a program called Crime Watch. Users can log onto the Web site and get detailed crime statistics. But I can't access the site—I'm told I'd have to buy Windows to do so.

Then I found out that my bank, Wells Fargo, has decided to drop Macintosh development for business services such as direct deposit. Our office is out of luck unless—again—we buy Windows.

Now I hear that by 2002, more California government services will be available online. My fear is that these services will also require Windows.

I hope people will pressure the government and private companies to develop truly platform-independent services.

GREGORY L. KLOSOWSKI
Oakland, California

Letters should be sent to *Letters*, Macworld, 301 Howard St., 16th Fl., San Francisco, CA 94105; via fax, 415/442-0766; or electronically, to letters@macworld.com. Include a return address and daytime phone number. Due to the high volume of mail received, we can't respond personally to each letter. We reserve the right to edit all letters. All published letters become the property of Macworld. **m**

We're Handspring. And this is Visor™, the latest Palm OS handheld computer that has everything you need to get organized plus infinite expandability. The secret lies in its revolutionary Springboard expansion slot. By simply inserting a module, your Visor can become a Global Positioning System, a passport to the internet, an electronic book, and much more.* Plus, it downloads thousands of existing Palm applications, has five colors to choose from and the USB connection makes syncing to your computer easy. Starting at only \$149, the price is just as revolutionary. Visit www.handspring.com today. And see why the future is just up ahead. Really. You can't miss it.



Global Positioning System.


handspring™
www.handspring.com

*Modules sold separately, availability may vary.

Copyright ©2000 Handspring, Inc. All rights reserved. Handspring, Springboard, Visor, the Handspring logo and the Springboard logo are trademarks of Handspring, Inc., and may be registered in some jurisdictions. Palm OS is a trademark of Palm Computing, Inc., 3Com Corporation or its subsidiaries.

WITH
ORDINARY
PRINTERS,
YOU SEE THE
PEOPLE ARE
SUNBATHING.

WITH OUR
PRINTERS,
YOU SEE
THE PEOPLE
ARE SAND
SCULPTURES.



YOU'VE GOT TO SEE IT IN

EPSON

COLOR.



It's true. The couple enjoying the sand is actually made from it. As are their clothes, glasses and book. Even the blanket they're lying on. It's all sand. Meticulously sculpted, painted and photographed to fool the eye. So when the artists who created this difficult illusion wanted to reproduce it for a brochure, there was only one printer they could trust with the job. An Epson. As you can see here, it captured not just the vibrant color of the setting but also the incredible detail in the sculptures. And turned what could have been a nightmare of a project into a day at the beach.

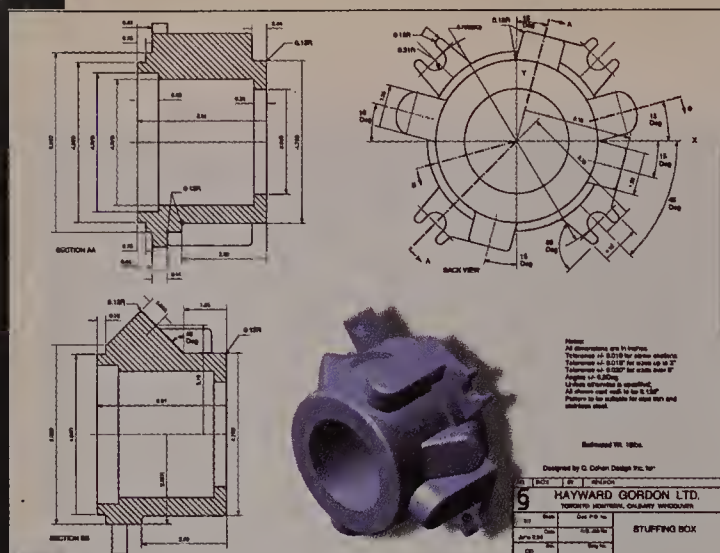
INTRODUCING THE ONLY PRINTERS WITH EVERYTHING YOU NEED FOR ALL THE DETAIL YOU WANT.

To capture the world's most brilliant images, only Epson color ink jet printers have the PerfectPicture® Imaging System for: 1440 x 720 dpi • Micro Piezo™ technology, for a cleaner, smaller droplet – as small as 3 picoliters • Fast print speeds – up to 12 PPM black/10 PPM color • Quick-drying inks • PC/MAC/USB compatibility. And remember, only Epson supplies guarantee Epson quality. For more information, call 1-800-GO-EPSON or visit www.epson.com.



Epson Stylus Color Ink Jet Printers. Sheer brilliance starting at \$89.

Price may vary. Up to 12 PPM black/10 PPM color with the EPSON Stylus Color 900. Epson, EPSON Stylus and Micro Piezo are trademarks/registered trademarks of Seiko Epson Corp. PerfectPicture is a registered trademark of Epson America, Inc. ©2000 Epson America, Inc.



Carlos Cohen, C. Cohen Designs Inc., Toronto, Canada; Rendered with RenderWorks

Introducing VectorWorks A Better Way to Design

Charles Duncan, Pty. Ltd.

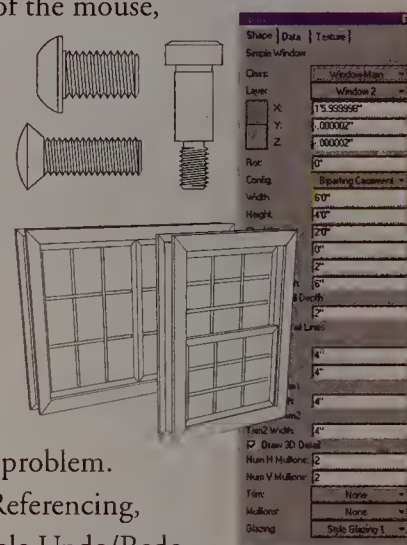


Roberto Candusso, Arquitetos Associados, Sao Paulo, Brazil

After 14 years of constant research and development, Diehl Graphsoft is proud to introduce VectorWorks—the next generation of MiniCAD. VectorWorks improves MiniCAD's proven CAD technology and merges new state of the art Object-Based design philosophy. This integration makes you more productive without sacrificing flexibility and control.

Increased Productivity with Object-Based Design

VectorWorks' state of the art Object Technology helps streamline the design process by making it easy to create common design elements. Now, Objects like doors, windows, nuts and bolts, can be created and edited with a click of the mouse, making it easy to explore design alternatives, consider "what if" scenarios, and handle last-minute client changes.



The Strength of a Proven CAD Technology

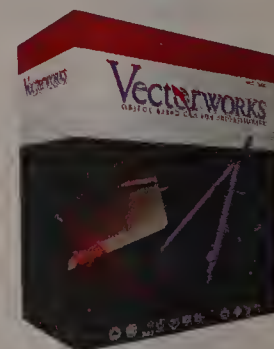
VectorWorks offers a solid foundation based on proven CAD technology—giving you the power and flexibility to tackle any design problem. New features such as Workgroup Referencing, DWG (v.14), Round Walls, Multiple Undo/Redo and an improved scripting language, strengthen VectorWorks' core CAD capabilities. And, with RenderWorks, VectorWorks' new photo-realistic rendering plug-in, you can bring your designs to life with textures, shadows and dramatic lighting.

The VectorWorks Advantage

With VectorWorks, you get it all—the flexibility and control of proven CAD technology and the productivity benefits of Object-Based design. VectorWorks ships FREE solutions for Architecture, Landscape Design, DTM and HVAC among others. Best of all, you aren't limited to the solutions we provide. VectorWorks is completely customizable, allowing you to create your own custom business solutions.

Special Offer to Readers of Macworld

Save \$134 by purchasing VectorWorks with photorealistic rendering direct for \$1061 or, without rendering for only \$795. Includes FREE Tech Support and a 90-Day Money-Back Guarantee.



Diehl Graphsoft Inc
Software for Today's Professional
1-888-646-4223



The Vision Thing

by Andrew Gore

The Golden Age of Wireless

A NETWORKED HOME ISN'T JUST FOR SHOW—IT CAN HELP YOU GET REAL WORK DONE

WE HERE AT *MACworld* have a theory. When it comes time for Apple to introduce a new product, the product managers sit down with a copy of our editorial calendar and figure out when the absolute last possible moment is for us to get the story into our next issue.

Then they set the introduction date for the next day.

Since Apple no longer briefs publications in advance of new products, we've had to come up with contingency plans to deal with last-minute debuts such as the one we cover in this month's issue.

But, as thorough as *Macworld's* planning is, something we didn't plan for was how critical my modest little home network would be in getting this month's cover story to you.

A Simple Plan

My journey into the world of home networking started simply enough: I moved into a new house. When we moved into our charming little slice of Silicon Valley, just a stone's throw from Apple's corporate headquarters, one of the first things we did was get high-speed DSL Internet access installed. That, of course, led me to wonder what I could do with all that bandwidth.

First, I knew I'd want to get all the computers in the house on a single network so they could share our speedy Internet access. Easy enough—I'd just run some Ethernet cable between rooms, then hook up a hub in the closet, and maybe even use an old iMac as a server.

That was last summer. My network wasn't up and running until just before New Year's Eve (for the complete saga, check out the ongoing series "Andy's Adventure Underground" at www.macworld.com/columns/gorey_details).

As it turned out, setting up the iMac was the easy part—the problem was running the wires. I couldn't find anyone willing to install Ethernet cable for me. And I soon found out why: pulling the cable through the crawl space of my house was one of the most unpleasant experiences I've ever had, and I lived through polyester leisure suits, pet rocks, and disco all in the same decade.

Wires? They're So 20th Century!

Luckily for me, right around the time I gave up on having an Ethernet port in every room, Apple's AirPort technology

10BaseT Ethernet still holds the advantage. And because all the computers accessing the network via the AirPort hub can share the same IP address, we didn't have to pay our ISP for any extra IP addresses.

Within a couple of hours, AirPort succeeded in completing the job that had taken me six months to begin. And AirPort did it for less. The cost of a \$299 hub and some \$99 Apple AirPort cards was minuscule next to the hundreds I'd spent on cable, tools, and jacks—and the cost of my time spent under the house running Ethernet cable.



GoreNet to the Rescue

But it wasn't until Apple's recent introduction of the 2000 model PowerBook that I really began to appreciate the power of the infrastructure I'd built in my home. My house is close to Apple, and *Macworld's* offices aren't. Rather than waste a precious hour driving back to San Francisco to start work on this issue's cover story, a team of *Macworld* editors invaded my home and turned it into an ad hoc Silicon Valley bureau. With the aid of several wireless PowerBooks and iBooks, I had editors scattered through the

house and even the backyard. A few hours later, we had the story finished—just making our deadline.

With fast access to the Internet and the ability to have multiple users anywhere in the house, my humble home network delivered the infrastructure needed by a whole workgroup on the spur of the moment. It made me appreciate just how far we've come. Anywhere, anytime computing is finally here, delivered not by huge corporations, but by homespun networks like the one that lives in my house. ■

Questions? Comments? E-mail them to Andy at visionthing@macworld.com.

The world's largest PC makers buy our memory direct.

[*Cut out the middleman.*]

Buy your memory direct from one of the largest memory manufacturers in the world. Performance, reliability, selection & factory direct savings —
Crucial Technology, a Division of Micron.

Crucial is your source for Macintosh memory.

Receive a 10% discount for ordering online. You can't get this quality for a lower price, anywhere.

Upgrades for popular Macintosh models such as:
iMac, Power Mac G3, iBook, and Power Mac G4.

64 MB
\$53⁹⁹
As low as...

video cards - scanners - motherboards - digital cameras



**More PC upgrades.
From The Memory Experts.**

monitors - printers - processors - hard drives - more!!

www.crucialupgrades.com

Crucial prices reflect an automatic 10% discount for ordering online.

Prices were accurate as of 2/18/00, however, they can (and do) change daily.

*2000 Micron Semiconductor Products, Inc. All rights reserved. Crucial Technology and the Crucial logo are trademarks of Micron Technology Inc., and Micron is a registered trademark of Micron Technology, Inc. All other brands and names used herein are the property of their respective owners. Crucial Technology is a Division of Micron Semiconductor Products, Inc. Phone 208-363-5500. Fax 208-363-5501. E-mail crucial.sales@micron.com. Crucial Technology is not responsible for omissions or errors in typography or photography.

Online discounts for over 39,000 upgrades at:

www.crucial.com

or call toll free 1-888-363-3082



The Memory Experts

crucialTM
TECHNOLOGY
A Division of Micron[®]

The Seven Deadly Macintosh Sins:



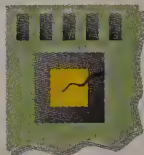
Software Conflicts



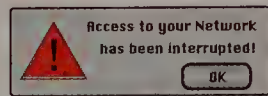
Memory Problems



Viruses



Hardware Problems



Network Problems

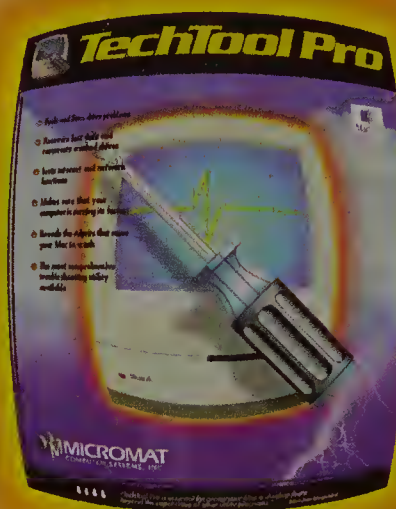


Disk Damage



Damaged Software

Salvation:



When good Macs go bad and fall from grace, it's good to know there's help nearby. Salvation is only a mouse-click away with the new TechTool Pro 3. Now featuring virus protection and conflict detection, TechTool Pro is the only program you need to help abolish the evil forces that have possessed your Macintosh. TechTool Pro 3 checks more aspects of your Macintosh than any other utility available. Period. Besides repairing and recovering damaged drives, eradicating viruses and catching the occasional software conflict; you can also test all those other critical parts of your system that other utilities simply ignore. Like RAM, logic board components, floppy drives, scanners, modems, internet connections and so much more. TechTool Pro even supports technologies like System 9.0.1, "Pure" HFS+, Firewire and USB drives, and all of the latest Macintosh models.

TechTool Pro can also help you in between times of trouble. Our disk and directory optimize features can help

improve the performance of your Macintosh as well as help circumvent problems before they happen. The TechTool Protection control panel will regularly check your system so you don't have to. It will also back up critical directory data, so if something goes wrong, you'll be up and running in no time flat.

But just because TechTool Pro is the most advanced Macintosh troubleshooting utility available doesn't mean that it has to be difficult to use. Our easy-to-use interface makes checking and fixing your Macintosh as easy as pressing one button. For advanced users, expert access allows you to control and configure TechTool Pro in almost any way you wish.

So if Macintosh troubles are turning your life into a living Hades, check out the tool of the trade: TechTool Pro. After all, you have the most powerful computer in the world. Shouldn't you be using the most powerful utility?

***Purchase TechTool Pro 2 now and receive a free upgrade to TechTool Pro 3 when it ships in Q1 2000!**

MicroMat Inc.
800-829-6227
707-566-3831
FAX: 707-566-3871
info@micromat.com
www.micromat.com



Fix different.™



*Offer subject to change without notice. Offer expires April, 30 2000.

©2000 MicroMat Inc. All rights reserved. TechTool is a registered trademark of MicroMat Inc. Fix Different is a trademark of MicroMat Inc. Macintosh is a trademark of Apple Computer, Inc.

Circle 67 on card or go to www.macworld.com/getinfo

online

Internet Firms Fight for Bite of Apple

AOL, EARTHLINK HAVE
PLENTY IN STORE FOR
MAC MARKET

by Philip Michaels

Get ready for a rumble. In this corner, with 21 million members and a new version of its Mac software, stands America Online, the world's largest Internet service provider. Its opponent, fresh from its merger with MindSpring and a new partnership with Apple, is EarthLink.

What's at stake? The hearts and minds—as well as the business—of Mac users, many of whom are new to the Net and looking for an ISP to call their own.

A Numbers Game Mac users make up a growing market for AOL and EarthLink to woo. Apple estimates that 93 percent of iMac buyers go online—62 percent are surfing the Web the first day they buy the computer. Those new users need ISPs—and in turn, those ISPs need to offer new users compelling reasons to pick them over rivals.

AOL and EarthLink have long histories with Apple. AOL (800/827-6364, www.aol.com) got its start a decade ago designing an online service for Mac users. When



EarthLink (800/395-8425, www.earthlink.net) rolled out the first version of its software, the product came only in Mac form.

You've Got Upgrades Mac users make up about 10 percent of AOL's subscriber base. The ISP giant hopes to build on that with a software upgrade. The company expects to release AOL 5.0 for the Mac by early spring; it may already be available by the time you read this.

The upgrade adds many features already available in

AOL's Windows version. My Calendar allows subscribers to track appointments and personal events. My Places lets users customize their Welcome page by adding links to their favorite AOL channels. With You've Got Pictures, AOL members can drop off film for developing at Eastman Kodak retailers and view the digital prints online. Other features allow users to retrieve deleted mail and switch between screen names.

AOL 5.0 also includes a few Mac-specific features.

Mac users can view animated GIF files and play sounds embedded in e-mail from other Mac members. The point is to personalize the online experience for users, AOL spokeswoman Marta Grutka says.

One feature that won't appear in AOL 5.0 for the Mac is the Internet software included in the Windows version. A class action suit filed in February claims the Windows software alters existing files and settings, making it

continues

hard to use rival ISPs. AOL, which denies the allegations, says the Internet feature targets Windows users only.

Apple Allies AOL may have a new version of its software on the way—but EarthLink has Apple's seal of approval. In a deal struck earlier this year, EarthLink became the only ISP in the Internet setup software that comes with any Mac sold in the United States. Apple gets a cut from each Mac customer who signs up with EarthLink, as well as a \$200 million stake in the company.

With Apple's cash and immediate access to Mac buyers, EarthLink clearly benefits from the deal. But what's in it for Mac users? To lure new and existing Mac customers, EarthLink has offered a free month of service and a setup-fee waiver.

The ISP is also touting its customer support. Mac users make up about 15 percent to 20 percent of EarthLink's 3 million subscribers, and EarthLink in turn dedicates 20 percent of its tech-support resources to the Mac. (For the record, AOL says its Mac-specific support resources are proportional to the size of its Mac subscriber base.)

EarthLink plans to make its current services more Mac specific, CEO Garry Betty says. The ISP expects to update some of its applications to take advantage of the upcoming Mac OS X. It also may adapt its start page to reflect the look and feel of Apple's Aqua interface.

With a subscriber base that dwarfs EarthLink's, AOL isn't panicking over its rival's cozy relationship with Apple. But don't think the leading ISP isn't keeping a close eye on EarthLink and its moves in the Mac market.

"It really does push us to develop new features," AOL's Grutka says.



My Own Private Big-Screen TV

FREQUENT FLIERS WHO'VE STRAINED TO SEE TOO MANY in-flight movies can turn their weary eyes elsewhere for entertainment. The Eye-Trek FMD-150W from Olympus (800/622-6372, www.olympusamerica.com) may look like an ordinary pair of sunglasses, but these shades come with a 240,000-pixel personal TV display. Plug the Eye-Trek into a portable DVD player, and the effect is like watching a 62-inch screen from less than 7 feet away. The \$899 gadget—\$599 for a lower-resolution version—also hooks up to TVs, VCRs, camcorders, and laser disc players.—PHILIP MICHAELS

multimedia

Adobe Flashes Macromedia

LIVEMOTION MAY
CHALLENGE WEB
DESIGN TOOL

by Frith Breitner

Macromedia (800/457-1774, www.macromedia.com) has spent the past few years virtually unchallenged as the maker of high-end multimedia Web design tools like Flash. But Flash's days as the only game in town may be coming to an end. Adobe (800/833-6687, www.adobe.com) will soon roll out a competitor called LiveMotion.

LiveMotion draws on one of Adobe's greatest

strengths—years of experience developing interfaces for a wide variety of design tools, such as drawing, video-editing, and Web design programs. Adobe has leveraged that advantage throughout its product line by making programs work together seamlessly and standardizing interfaces.

LiveMotion features an interface almost identical to that of ImageStyler, a Web-graphics tool discontinued by Adobe. As with ImageStyler, LiveMotion lets you drag objects—including EPS graphics and Adobe Photoshop documents—onto a canvas where you can apply the program's preset styles to them or create new styles using palette tools. Designers can add bevels, drop shadows, and other effects with one click.

What's more, users can apply any number of effects to one object and then

instantly apply those effects to others by linking them. At any point, users can simultaneously edit the style on all linked objects.

LiveMotion's animation features owe a debt to another Adobe product: After Effects. With LiveMotion, you can animate object attributes via an After Effects-inspired timeline window. Flash relies on a more complex Macromedia Director-style animation interface, which can be challenging for designers to learn.

LiveMotion can read native Adobe Illustrator and Photoshop files. Photoshop compatibility is an expected advantage over Flash because Photoshop is the de facto standard in bitmap-editing programs.

Once users import a layered Photoshop file into LiveMotion, they can treat the file as a single-image object or explode its layers into separate objects to be manipulated individually. Users can also bring objects created in LiveMotion into Illustrator or Photoshop for editing; the object is automatically updated in LiveMotion. Since LiveMotion doesn't actually throw away any picture data, users can make last-minute changes.

LiveMotion can export files as JPEGs, animated GIFs, SVG animations, and Flash files. In addition, users can export objects within a LiveMotion document as different file types with different compression schemes controlled on a per-object basis. LiveMotion takes those files and automatically places them inside HTML tables.

LiveMotion is expected to ship in May. It will sell for \$399, though Adobe will offer it to registered users of other Adobe products for \$299 within the first 90 days of shipping.

publishing

More Megapixels for Your Buck

HIGH-RES DIGITAL

CAMERAS ON THE WAY

by Frith Breitner

Maybe you were just getting used to the idea of 2-megapixel cameras—but digital camera makers aren't standing still. They're planning a slew of releases for the latest in high-resolution devices: cameras with resolutions topping 3 megapixels.

While the new models will cost approximately \$1,000, they should drive down the prices of their 2-megapixel predecessors.

Nikon (800/526-4566, www.nikonusa.com) has announced the Coolpix 990, a 3.34-megapixel camera with a 3× optical zoom lens. The camera can generate nearly 10MB files with 2,048-by-1,536-pixel resolution.



Olympus C-3030 Zoom

Quick Trigger The company claims the camera can shoot 2 frames per second (fps) in full resolution, nearly eliminating the lag time between shots in most digital cameras. In movie mode, the

camera can shoot 40 seconds of 320-by-240-pixel resolution images at 15 fps. The Coolpix 990 accepts CompactFlash memory cards and has a USB interface. Its predecessor, the Coolpix 950, now sells for \$900. Nikon plans an April 2000 release for the new camera.

Olympus (800/622-6372, www.olympus.com) has also announced a 3.34-megapixel camera. The C-3030 Zoom features a 3× optical zoom and USB and serial connectivity.

The camera features a 15-fps QuickTime movie mode that records 191 seconds of video at 160-by-120-pixel resolution or 46 seconds at 320 by 240 pixels. The C-3030 comes with a 16MB SmartMedia card and should ship this May.

Toshiba (800/288-1354, www.toshiba.com) planned to start shipping the PDR-M70 this March. The 3.37-megapixel CCD camera can produce 2,048-by-1,536-pixel images. The camera also has a 3× optical zoom and an AVI movie function capable of recording 30 seconds of 15-fps video at 320 by 240 pixels. It is USB-compatible and accepts SmartMedia cards.

Known mostly for its conventional film technologies, Fujifilm (800/800-3854, www.fujifilm.com) has recently announced the FinePix 4700 Zoom, a camera featuring the firm's Super CCD image sensor technology.

Diode Design The CCD has about 2.4 million photosites—light-sensitive diodes that record image information. Fujifilm says that the camera can produce a 4.3-megapixel image file, thanks to its Super CCD technology. Instead of plac-

ing rectangular photosites on a rectangular grid, Fujifilm arranges hexagonal diodes in a honeycomb pattern. By maximizing space, the company can boost the size of the photosites.

Because the Super CCD photosites are closer together and larger, they can measure light more accurately than a conventional CCD with the same number of diodes.

The FinePix 4700 Zoom features an AVI video function, a 3× optical zoom, and three metering modes. The USB-compatible camera uses SmartMedia cards. It should ship in April 2000.

publishing

InDesign Update in Store

FEATURES ADDED TO IMPROVE WORKFLOW

by Frith Breitner

Designers who balked at buying Adobe's InDesign 1.0 may have a new incentive to give the program a shot. The upcoming InDesign 1.5 boasts new features and improvements requested by customers. Adobe says the upgrade streamlines prepress and printing workflow.

InDesign 1.5 promises designers the ability to align text to any path and edit paths more easily. A new eyedropper tool allows users to instantly copy attributes, including text formats, between objects. The program features an improved interface for selecting and editing colors; new drawing tools; and a flexible free-transform tool for rotating

Product WATCH

Camera-Ready The **Palm Pilot** and the **Handspring Visor**

will soon do more than track appointments and keep you organized. They'll help you take pictures, too, thanks to a pair of digital camera accessories. Ideo Product Development's (650/688-3400, www.eyemodule.com)

Eyemodule digital camera snaps into the Handspring Visor's Springboard port, letting users capture 24-bit color images; users can beam those images to other Visors or Palm OS-based handhelds. The \$149 Eyemodule will ship this spring. Palm III and Palm VII users will get a photo option of their own with Eastman Kodak's (800/235-6325, www.kodak.com) **PalmPix**. The 1.5-ounce device plugs into a Palm's HotSync port and functions as a 640-by-480-pixel resolution digital camera. The PalmPix should ship by early summer; it will sell for \$179.

Color Me Palm Speaking of PDAs, Palm Computing (800/881-7256, www.palm.com) has added a splash of color with the late-February release of the **Palm IIIc**. The \$499 handheld features an 8-bit color display designed to improve readability. It ships with four built-in applications, including an enhanced calculator and a digital photo album. And the rechargeable device runs on a new operating system, Palm OS 3.5.

The Sound and the Photos Samsung (201/902-0347, www.simplyamazing.com) wants to

continues

Product WATCH

add a soundtrack to your next photo shoot. With the **Cybermax 35 MP3**, the company combines a digital camera and an MP3 player. The \$290 device features 640-by-480-pixel resolution, a CompactFlash memory slot, and a USB interface. It will ship this spring.

Taking Care of E-business

Document Express (858/551-6767, www.documentexpress.com) wants to eliminate some of the headaches for small companies doing business on the Web with its software for managing e-mail responses. **Document Express Pro 3.0** captures data from customer e-mail, generates and updates client databases, and produces personalized responses to customer queries. Available in April 2000, the new version adds some Web-page templates tied to Adobe GoLive and other templates geared toward Mac market retailers. **Document Express Pro 3.0** will sell for around \$150.

Hearing Aid Mac sound quality is expected to get a boost later this year when Plantronics (800/544-4660, www.plantronics.com) rolls out a line of four USB headsets. Boasting digital signal processing technology, the headsets offer improved clarity over analog models. They also include a microphone—good news for owners of the iBook, which has no audio input port. Plantronics hasn't yet set a price for the headsets, which will ship in the third quarter of 2000.—EDITED BY PHILIP MICHAELS

and scaling objects. On the production side, InDesign 1.5 offers PDF and printer export styles designed to ensure consistent print settings. And InDesign's expanded AppleScript support should allow users to automate more production processes, including choosing printer styles and creating PDF files.

Unlike QuarkXPress, which provides only low-resolution previews of graphics placed in documents, InDesign 1.5 has an optimized-resolution option. The feature allows users to choose whether specific graphics are shown at enhanced- or full-resolution mode.

InDesign 1.5 should be shipping by the time you read this. It will cost \$699; Adobe will offer InDesign 1.0 users an aggressive upgrade price.

News

systems

G4s Go Back to the Future

POWER MACS GET
LONG-ANTICIPATED
SPEED BOOST

by Philip Michaels

Take a stab at this riddle: When is a new product upgrade not really all that new? Answer: When it was first announced several months before its release. Apple (800/795-1000, www.apple.com) has boosted the processor speeds on its Power Mac G4 product line, with the fastest G4 now clocking in at

500MHz. The G4 systems also come in 400MHz and 450MHz versions.

Don't be alarmed if that news feels like déjà vu. Apple first announced these souped-up desktops in fall 1999.

Why the delay? Chip supplier Motorola couldn't deliver enough 500MHz G4 processors. A chagrined Apple had to reconfigure its G4 line with lower-speed chips but sold the slower machines at the same prices it had set for the faster models. Adding to Apple's public-relations woes, the company gave conflicting information on which G4 orders would be honored.

With IBM soon joining Motorola in supplying processors, Apple has enough of them on hand to release the 500MHz G4s. Apple will sell the faster machines at the prices it announced last fall: \$3,499 for the 500MHz G4, \$2,499 for the 450MHz model, and \$1,599 for the 400MHz version.

The G4 comes with a subprocessor, dubbed Velocity Engine, that processes data with an expanded instruction set. As a result, a G4 processor can render graphics, encode sound, and perform calculations faster than a G3 can.

The catch? Developers have to modify their applications to take advantage of Velocity Engine features. Adobe has released Velocity Engine plug-ins for Photoshop 5.5 and After Effects 4.1, and other Macintosh developers have followed suit with new versions of software. Velocity Engine-friendly products include Casady & Greene's SoundJam MP, Terran Interactive's Media Cleaner Pro, Linker's Animation Stand 4.1, Heuris's MPEG Power Professional, Play's Amorphium, and Sonic Solutions' DVD Fusion.



Copyholder Gets High-Tech Look

PRINTERS, KEYBOARDS, AND MICE NOW SPORT THE iMac's translucent, fruit-flavored look. Why shouldn't low-tech products like copyholders follow suit? That's the idea behind Comfort Lab's (310/306-8434, www.comfortpoint.com) Page Up—a \$6.95 page holder that comes in the five iMac colors. But Page Up's beauty is more than skin-deep. The portable plastic ball holds up to 15 pages at a 78-degree angle to keep them from wilting as you type. Page Up also boasts a compact design, freeing up desk space for other iMac-colored gadgets.—PHILIP MICHAELS

Get smoother graphics

NEW!
StyleScript 5.0
with Adobe
PostScript® 3™
support for Epson®
inkjet printers

Get StyleScript 5.0

You never need to worry about jagged edges spoiling your graphics again. StyleScript turns your inkjet printer into a genuine Adobe PostScript 3 printer.

For just \$99, StyleScript 5.0 delivers:

- Accurate and fast PostScript printing
- Reliable color matching
- A convenient and simple interface
- Support for USB, serial and Ethernet printing

StyleScript Now Supports:

Epson Stylus Color 740, 740i
Epson Stylus Color 760
Epson Stylus Color 860
Epson Stylus Color 900, 900N, 900G
Epson Stylus Color 1160
HP DeskJet 1120C

**Get the most out of your inkjet.
Get StyleScript.**

This **EPS** image was printed on a color inkjet **WITHOUT** StyleScript.

This **EPS** image was printed on a color inkjet **WITH** StyleScript.

Mac

USB
UNIVERSAL SERIAL BUS

ColorSync

Adobe PostScript

EPSON

INFOWAVE

To get StyleScript, visit your Apple reseller or contact Infowave directly at 888.842.5313 or www.infowave.com/stylescript5

For Crisp, Sharp
Printing of PostScript® Graphics
On Your Inkjet Printer

MacUser
★★★★

MAC HOME
★★★★

MAC TODAY
RATING ★★★★★

Circle 32 on card or go to www.macworld.com/getinfo





Go Wide.

Introducing the new HP DeskJet 1220C printer designed for the Mac.

If your work demands a wider range of capabilities, the Mac-compatible HP DeskJet 1220C delivers the big picture — up to 13" x 19" including 11" x 17" full bleed — *right out of the box*. It features HP's enhanced Color Layering Technology for true-to-the-original printouts and an alternative 2400 x 1200-dpi mode using photo paper. With speeds up



Go Wild!

Big, brilliant color printouts up to 13" x 19"

to 11 ppm for black and 9.5 ppm for text and graphics, you can go as wild as you want and still print faster than you ever thought possible. Look for the HP DeskJet 1220C/PS PostScript printer, available with Adobe® PressReady™ Basics for \$599. Stop by your HP retailer today. Discover how wide great printing can be. **True to the Original.**

©2000 by Hewlett-Packard Company

www.hp.com/go/dj1220

*Estimated U.S. retail price



\$499*

HP DeskJet 1220C

Reviews

Lightweight Projectors

PRICEY LCD AND DLP

PROJECTORS WEIGH LESS,

LOOK GOOD

LUGGING AROUND A HEAVY projector for a mobile presentation is nobody's idea of fun. Is a lightweight projector a better option? Macworld Lab looked at seven projectors, each weighing under 10 pounds, and we were pleasantly surprised. All of the projectors offer either outstanding or acceptable image contrast, color, and brightness (see "Battle of the Lightweights" for subjective test results). Unfortunately, although the projectors are small in size, they're not small in price: they start at \$4,999 and climb from there. And it's important to remember that you're paying for weight (or lack of it); these projectors' features can't match those of heavier models.

The Quantity of Quality

Our jury of experts ran the projectors—four LCD models (the Proxima Ultra-Light LS1 and the Epson PowerLite 500c, 710c, and 5550c) and three DLP (digital light processing) models (the InFocus LP330, the NEC MultiSync LT84, and the Sharp Notevision7)—through subjective tests to evaluate brightness, contrast, color, gray-scale output, text rendering, and DVD video display. In tests of brightness, contrast, and color, none of the projectors performed unacceptably; however, the Epson PowerLite 710c and 5550c were the brightest and most pleasing to look at.



SUZANNE ROADY

Similarly, in our gray-scale tests, all the projectors achieved either excellent or fair results; the Epson PowerLite 710c and 5550c and the NEC MultiSync LT84 were the best of the bunch. The InFocus LP330 produced a fair gray-scale image but displayed "dancing" pixels that didn't go away when we adjusted the display.

For our text test, we used a simple PowerPoint presentation. With the exception of the InFocus LP330, the DLP projectors presented even 8-point fonts clearly—something the LCD projectors couldn't do, although they could accurately display fonts as small as 16-point before text began looking jagged and unreadable. The Proxima LS1 took

some adjusting, but eventually it was able to project excellent-looking results.

We tested the projectors' DVD video abilities using a set-top DVD player similar to what you'd see in a simple home-theater setup. We connected the player to the projectors using an S-Video cable, an option available on all the models. The DLP projectors performed adequately when projecting DVD video but suffered from graininess and poor image quality. The LCD projectors did better, with the Epson PowerLite 500c and 710c ranking highest.

Set It and Forget It

If you'll be connecting your projector to a variety of computers, it's important that

REAL PRODUCTS
REAL RATINGS

Reviews you can trust: Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy.

OUTSTANDING: ★★★★★

VERY GOOD: ★★★★

GOOD: ★★★

FLAWED: ★★

UNACCEPTABLE: ★

Battle of the Lightweights

	Brightness	Contrast	Color	Gray Scale	Text	DVD Video
Epson PowerLite 500c	Excellent	Excellent	Fair	Fair	Fair	Excellent
Epson PowerLite 5550c	Excellent	Excellent	Excellent	Excellent	Fair	Fair
Epson PowerLite 710c	Excellent	Excellent	Excellent	Excellent	Fair	Excellent
InFocus LP330	Excellent	Excellent	Fair	Fair	Fair	Fair
NEC MultiSync LT84	Excellent	Fair	Fair	Excellent	Excellent	Fair
Proxima UltraLight LS1	Excellent	Fair	Fair	Fair	Excellent	Fair
Sharp Notevision7	Fair	Fair	Fair	Fair	Excellent	Fair

Behind Our Tests

Macworld Lab conducted subjective tests, determining quality to be excellent, fair, or poor. Each projector was rated according to how well it displayed our test images created in Adobe Photoshop and Microsoft

PowerPoint. Subjective DVD video quality was gauged using an S-Video signal from a set-top DVD player.—Macworld Lab testing supervised by Kevin Mitchell

the equipment work with little effort and be easy to set up. All the projectors we tested, except the InFocus LP330, could be set up with little or no problem. The InFocus required resetting monitor resolutions, restarting the computer, and resyncing to get the picture to display correctly.

The Sharp Notevision7 is the best plug-and-play projector of the group. It not only offers worry-free setup but also displays helpful, accurate progress bars while it warms up and while it syncs with the computer after you change the resolution. The other projectors aren't nearly as helpful, displaying either a blank screen or a simple dialog box.

Remotes and Sound

All the projectors come with both on-board and remote controls. The Proxima UltraLight LS1, Sharp Notevision7, and

NEC MultiSync have remotes that include laser pointers. We found that the laser pointer drew attention to the screen faster than a mouse pointer or other projector-generated on-screen pointers.

The remotes can also be used to control the mouse. We judged the NEC MultiSync's optional remote to be the best in this category; it features a multi-directional pad for mouse movement. All the projectors except the Proxima LS1 are controllable from more than 20 feet away, even with obstacles between the remote and the projector.

In a small, quiet room, these projectors can pump out the sound. The Epson PowerLite 5550c and 710c offer 3-D surround sound, while the InFocus and NEC projectors feature stereo sound (the others offer mono sound). The Epson PowerLite 5550c and the Proxima Ultra-

Light LS1 had the best sound quality; the worst was the Sharp Notevision7.

Macworld's Buying Advice

Full-size projectors are less expensive and better equipped than any of the lightweight projectors we tested. But if your projector will be moved around, taken on the road, or used in conjunction with a laptop, the lower weight might be worth the higher price. If you can spend the money, go for the Epson PowerLite 710c. It packs the best performance into one of the lightest chassis and offers trouble-free setup. If money is a concern, consider the Epson 5550c: it's an excellent value, packing the widest array of features, ease of use, and quality into a low price. It's the ideal projector for a multiuser environment on a budget.—BRETT LARSON

Lightweight Projectors Compared

Company	Product	Mouse Rating	List Price	Contact	Lumens	Native Resolution	Maximum Resolution (in pixels)	Display Technology	Weight (in pounds)
Epson	PowerLite 500c	★★★½	\$5,999	800/463-7766 www.epson.com	800	SVGA	1280 × 1,024	LCD	5.8
	PowerLite 5550c	★★★½	\$5,999		850	SVGA	1,024 × 768	LCD	9.4
	PowerLite 710c	★★★★½	\$7,999		1,000	XGA	1,600 × 1,200	LCD	5.8
InFocus	LP330	★★½	\$6,999	503/685-8888 www.infocus.com	650	XGA	1,024 × 768	DLP	4.8
NEC	MultiSync LT84	★★★★	\$5,495	800/632-4636 www.nectec.com	700	SVGA	1,152 × 870	DLP	5.5
Proxima	UltraLight LS1	★★★½	\$4,999	800/447-7692 www.proxima.com	700	SVGA	1,024 × 768	LCD	8.4
Sharp	Notevision7	★★★½	\$8,995	888/513-7427 www.sharplcd.com	800	XGA	1,280 × 1,024	DLP	6.3

USB Scanners

CANON, UMAX OFFER SIMPLE, SPEEDY SCANNING

HOW MUCH DIFFERENCE IS THERE between a \$129 scanner and a \$179 one? Does the extra \$50 actually get you anything? When the scanners in question are the \$129 CanoScan FB 630Ui, from Canon, and the \$179 Astra MX3, from Umax, the answer is yes.

The two scanners have very similar specs: they scan at an optical resolution of 600 by 1,200 pixels per inch, capturing 36 bits per pixel internally, and they're clearly aimed at the SOHO market, offering easy image scanning, optical character recognition (OCR), and integration with at least some e-mail applications. Both scanners are also reasonably speedy, taking just over a minute to scan a 4-by-6-inch color print at 600 dpi, and we were pleasantly surprised by the image quality they produced. However, the Astra provides a more generous software bundle, more connectivity options, and a better scanning engine than the CanoScan.

Small Is Beautiful

The CanoScan is tiny—10.1 by 14.6 by 1.5 inches—and weighs only 3.3 pounds. It draws power through the USB bus, so no AC adapter is necessary. The downside is that you must attach the scanner to a USB port capable of supplying enough power (2.5w at 500mA). If you have several USB devices attached to your Mac, you may run into trouble.

The Astra is a more conventional CCD scanner. It offers a SCSI-2 interface in addition to USB and draws power through an AC adapter. At 18.4 by 12.2 by 3.9 inches and 8.5 pounds, it's larger and much heavier than the CanoScan. Unlike Canon's scanner, it offers an optional transparency adapter. While the CanoScan is limited to 24-bit output, the Astra can capture raw high-bit scans as 48-bit RGB files. Umax's proprietary bit-enhancement technology uses software magic to increase the raw bit depth to 42 bits, producing significantly better shadow detail and smoother gradations.

The Astra has three buttons (compared with the CanoScan's one). You can configure these buttons as you wish: for example, one button to scan to a graph-

ics application, one to copy an image straight to a printer, and one to scan to an e-mail or OCR program. However, you can't use these buttons to set cropping or adjust an image, so they aren't as useful as they might be.

Plugging In

Scanning is controlled through the CanoScan's plug-in driver, which contains a reasonably comprehensive set of tools for setting cropping, resolution, and color mode and adjusting tone and color bal-



The CanoScan FB 630Ui (left) and Umax Astra MX3

ance. One option uses ColorSync to match the original on your monitor, but it can't scan to other profiles.

In addition to its plug-in, the CanoScan's software bundle includes Canon Photo, CanoScan Toolbox, and Xerox's TextBridge Pro OCR. CanoScan Toolbox acts as command central for the scanner, letting you scan or fax a document or copy it directly to a printer. The program offers some basic postscan editing features, along with selection, drawing, and painting tools, but it's worth learning the plug-in's controls to optimize a scan *before* capturing it.

Canon Photo allows you to build collections of images, enhance individual images by using a wizardlike interface, and make electronic greeting cards that can contain audio annotations as well as images (any Mac user can read and hear the card, but cross-platform cards are limited to JPEG format with no audio). Rounding out the bundle is Xerox's TextBridge Pro, an OCR application that can "learn" to read poor-quality documents but requires considerable training time to produce recognizable text.

Umax bundles Presto PageManager; Presto PhotoAlbum; Caere OmniPage Limited Edition; Adobe PhotoDeluxe; and the VistaScan scanner driver, which can function as either a plug-in or a stand-alone application. VistaScan offers a few features that the CanoScan's plug-in lacks, including the ability to output a raw 42-bit RGB file, more-comprehensive image-editing controls, and presets for fax and OCR scanning.

PageManager allows you to catalog images and OCR-recognized text files and fax them or send them to your e-mail program at the press of a button. (The e-mail integration works only with Lotus cc:Mail, Microsoft Mail, CE Software's QuickMail, and Apple's PowerTalk.) Presto PhotoAlbum lets you save collections of photos as albums in a variety of templates with borders, sound annotation, and special effects. You can share albums by exporting them with the player application or as HTML documents.

OmniPage LE is an industrial-strength OCR application that lacks some of the bells and whistles offered by OmniPage Pro.

Macworld's Buying Advice

If you simply want a general-purpose scanner for creating Web images and doing OCR, either the Canon CanoScan FB 630Ui or the Umax Astra MX3 will fill the bill nicely. But if your main concern is scanning color images for hard-copy output, the Astra is almost certainly worth the extra money.—BRUCE FRASER

Astra MX3

RATING: ★★★½ **PROS:** USB and SCSI-2 interfaces; good automation features; excellent image quality for the price. **CONS:** Limited e-mail integration. **COMPANY:** Umax Technologies (510/651-4000, www.umax.com). **COMPANY'S ESTIMATED PRICE:** \$179.

CanoScan FB 630Ui

RATING: ★★★ **PROS:** Tiny footprint; easy-to-use controls; good price. **CONS:** Limited connectivity options; basic image-editing features. **COMPANY:** Canon Computer Systems (800/652-2666, www.ccsi.canon.com). **COMPANY'S ESTIMATED PRICE:** \$129.

**Ultra160 SCSI.
A better way to
use your time.**

How frustrating. Just when you're on a creative roll, file saving and scratch disk processing run smack into your train of thought. Not even G4s solve that. But Adaptec has.

Adaptec's PowerDomain® 29160N Ultra160 SCSI card is three times faster than FireWire™. A hundred times faster than USB. And, backward compatibility makes legacy drives and peripherals snap to attention.

Adaptec offers a complete line of SCSI cards from our flagship dual channel Ultra160 PowerDomain 39160 to portable SCSI for your PowerBook®. So instead of worrying about how to get everything done on time, find out how to improve your Mac's performance at www.adaptec.com/mac. And be sure to include Adaptec SCSI with your next Macintosh® purchase.



Progress

Writing TIFF Format

Cancel

SITTING AROUND WITH
EVERYTHING TO DO?

We move the information that moves your world.™

adaptec

©1999 Adaptec, Inc. All rights reserved. Adaptec, the Adaptec logo, the Adaptec tagline and PowerDomain are trademarks of Adaptec, Inc., which may be registered in some jurisdictions. Macintosh and PowerBook are registered trademarks and FireWire is a trademark of Apple Computer, Inc., used under license. All other trademarks used are owned by their respective owners.

LiveStage Professional 2.0

POWERFUL BUT PRICY QUICKTIME AUTHORIZING

YOU MIGHT THINK OF APPLE'S QuickTime as simply a way to watch movie trailers, listen to Internet radio stations, or explore 360-degree panoramic scenes. But QuickTime also lets you create movies with sophisticated interactivity—clickable hot spots that control playback or that branch to Web pages, for example. Much of QuickTime's potential has remained untapped due to a lack of capable authoring tools; the first offerings, Electrifier's Electrifier Pro and Totally Hip Software's LiveStage, showed promise but were burdened by awkward interfaces and feature limitations (see *Reviews*, May 1999).

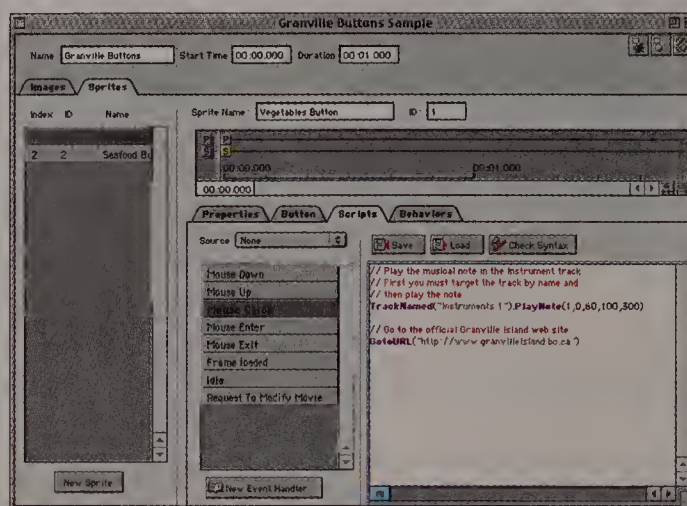
LiveStage Professional 2.0.1 is a big step forward. Gone are its predecessor's most glaring limitations, such as the inability to import existing QuickTime content. Totally Hip has also included a printed manual, which was conspicuously absent from earlier versions.

But LiveStage Professional remains more suited to programmers than to designers. Implementing interactivity usually means writing scripts, and the cumbersome interface lacks the polish of Macromedia Flash's authoring environment.

The Authoring Process

Creating a project in LiveStage Professional involves importing existing content and then creating tracks and sprites. These elements control the project's appearance and interactivity via settings and scripts. Along the way, you use the Stage window to position your project's elements. When you're done, you save the project as a cross-platform QuickTime movie that you can embed in a Web page or play in any QuickTime-savvy program. The Stage window is only slightly improved over that of earlier versions, unfortunately—new tools make aligning objects easy, but the lack of rulers hinders layout chores.

The program can import all the usual suspects—QuickTime movies, sound files, and static images—as well as completed Flash projects (SWF files). The ability to import Flash movies enables developers to create animations and navigation elements in Flash, bring them into



On the LiveStage LiveStage Professional 2.0.1 relies heavily on scripting. This script is for a button that, when clicked on, plays a sound and branches to a Web page.

LiveStage, and integrate them with QuickTime content or enhance them with scripts. You can't modify Flash content within LiveStage, but you can augment it by attaching scripts to specific frames or events, such as a button press.

LiveStage Professional lets you animate an element by tweening: specify its starting and ending position, and LiveStage creates the intermediate values. You can tween everything from an object's position, to a QuickTime VR panorama's viewing angle, to an image's graphics mode. But animating an element is awkward; rather than simply drawing an animation path, as in Flash and Director, you must peck values into a dialog box and draw a path in a separate window.

Scripting, Debugging, Delivering

Creating an interactive item, such as a clickable button, usually means creating a sprite track in the Project window and then adding media and scripts to the track in a separate Sprite window. Although LiveStage Professional relies heavily on scripting, it does offer several keystroke-saving features. A palette gives you one-click access to all the keywords and constructs in LiveStage's programming language. Simply drag a keyword to the desired location within a script, and then type any required parameters.

Version 2.0 also features *behaviors*. These canned scripts handle common tasks, such as displaying a Web page when users click on a button. Drag a behavior

into a Sprite window, type any required attributes, and you're done—no manual scripting necessary. Advanced scripters can create their own behaviors and add them to LiveStage Professional's Library or pass them along to colleagues.

Also new to version 2 is support for AppleScript. You can create scripts that automate repetitive tasks, such as specifying compression settings for a large collection of images. A handy Debugging window displays info as a project is running, though it would be more valuable if it displayed the contents of variables as scripts ran.

When you've finished a project, choose Export Wired Movie, and LiveStage Professional produces a stand-alone QuickTime movie ready for publishing—after you hand-code some HTML, that is (unlike Flash, LiveStage doesn't create the HTML necessary to display your movie).

Macworld's Buying Advice

LiveStage Professional 2.0.1 is by far the most versatile and powerful QuickTime-authoring program. Its only competition is Electrifier's Electrifier Pro, which is languishing as its publisher focuses on other ventures. But at \$700, LiveStage Professional is overpriced, even when you consider that it includes Totally Hip's terrific WebPainter animation utility. And it needs more polish; its interface can be awkward, its Undo command works inconsistently, and the program occasionally crashed during testing.

Indisputably a powerful tool for adding advanced interactivity to QuickTime movies and for combining Flash and QuickTime content, LiveStage Professional also has a lot to offer QuickTime VR producers, who can use it to create interactive hot spots and add automatic panning and zooming features to VR panoramas. But the program is too expensive and too complex for all but the most dedicated QuickTime authors.—JIM HEID

RATING: **PROS:** Powerful scripting features; versatile. **CONS:** Can be cumbersome; flaky Undo command; occasional crashes; expensive. **COMPANY:** Totally Hip Software (604/685-6525, www.totallyhip.com). **LIST PRICE:** \$700.

Discover True Compatibility



**Enter
to Win a Trip
and a Visor!**

Visit
www.connectix.com
for more details

Connectix VIRTUAL PC

delivers true compatibility by enabling you to run multiple operating systems on your Mac. With Virtual PC, you can run Red Hat Linux, Windows 2000, 98, 95, or PC-DOS from a window on your Mac desktop. You will be more productive by enabling your Mac to run PC programs, access PC networks, and share files with your PC-based co-workers or clients.

Connectix Virtual PC is a software solution that's like having a Pentium chip in your Mac. And, it's available in 5 different versions. Whether you need to run Red Hat Linux, Windows 2000, 98, 95, or PC-DOS on your Mac, Virtual PC makes it easy to get started because the operating system is pre-installed. Bridge the compatibility gap between your Mac and most PCs by using Virtual PC from Connectix.

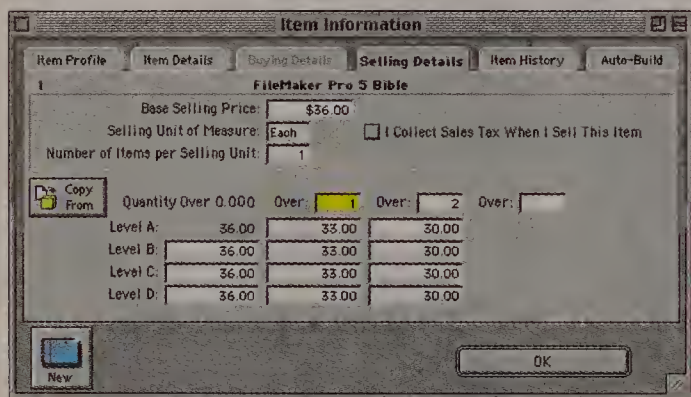
To buy or for more information, go to www.connectix.com or call 1-800-395-1804



MYOB Accounting Plus 9.0

CONFUSING INTERFACE MARS CAPABLE BUSINESS PROGRAM

FOLLOWING THE TREND TOWARD consolidation, MYOB has melded features from its two flagship accounting programs into one general-purpose package that lets you do it all—payroll, inventory, job tracking, and time billing. On a superficial level, MYOB Accounting Plus 9.0 hasn't changed substantially from earlier versions; the interface may still have you reaching for the manual or calling tech support. But MYOB Accounting Plus is an extremely capable program that, once mastered, will serve small and medium-size businesses admirably.



Price Breaks With MYOB Accounting Plus 9.0, any item you sell can have multiple price points based on customer status or quantity purchased.

MYOB Accounting Plus 9.0 offers some of the features of MYOB Premier Accounting, as well as enhancements such as print-to-file versions of reports and forms that you can e-mail to customers and vendors; multilevel pricing options; TCP/IP network support; and the ability to flag items, accounts, jobs, vendors, and customers as inactive. Although the program employs a double-entry system, balancing entries are made for you behind the scenes. MYOB Accounting Plus lets you choose from and customize more than 100 charts of accounts, including one based on the ever popular IRS Schedule C. You choose functions, such as writing checks and preparing payroll, by clicking on buttons in the flowchart-style interface.

Paperless Accounting

Rather than printing a form or report for mailing, you can now print it to disk, using the included JFAX print driver and extension. The resulting graphic file (a Group III

fax TIFF) can be sent to a customer or vendor as an e-mail attachment and viewed with MYOB Viewer, an included shareware program based on GraphicConverter. Only a few current graphics programs can open Group III TIFFs, so you'll have to send a copy of MYOB Viewer to each potential recipient. (Optionally, MYOB Viewer can convert the print files to normal TIFFs or PICTs that can be viewed in any graphics program.) As long as users of the Windows version of MYOB Accounting Plus have a MAPI-compliant e-mail program, they can e-mail reports and forms directly from the program. One caveat: whenever

we launched an Internet program or attempted to shut down after using JFAX, a system crash ensued. According to MYOB, however, no one else has reported similar problems.

The new version is multi-user-ready; it can be used on a network (including a mixed Mac-and-PC one) right out of the box, though only one person at a time can access the data file. If you want to allow multiple users to access the data simultaneously, you can purchase additional workstation licenses. Version 9.0 also adds TCP/IP to the list of supported network protocols (NetBIOS, NetBEUI, LANBIOS, and AppleTalk).

Money Matters

You can now set as many as six pricing tiers for each item you sell (see "Price Breaks"), allowing you to establish preferred pricing for special customers, for example, or vary prices according to quantity purchased. You can apply pricing tiers in two ways. You can assign a tier to each customer—by default, the customer is charged that tier's price for every item purchased—or you can specify a default pricing tier for all the items you sell and have those prices applied automatically to all sales for which the customer doesn't have a specific tier assigned. This second approach has one drawback: there's no simple way to apply multiple tiers to a customer's purchases. When recording an invoice, for example, you can't choose Level A pricing from a

pop-up list for one item and Level B for another; you have to manually edit the prices on the customer's invoice, either from memory or by consulting a price list.


If your company conducts business outside the United States, you'll be pleased to note that you can now record transactions in foreign currencies. All you have to do is specify that a vendor or customer's transactions are in euros, for example, and the program records all their sales and purchases in that currency. It's up to you to keep the exchange rates current by periodically editing the program's Currency List. MYOB Accounting Plus also includes an easy-to-use currency calculator.

Another new feature is the ability to enter interest and service charges in the Account Reconciliation screen. To reduce clutter in product, customer, and vendor lists, you can mark any entry as inactive, thereby preventing it from showing up in choice lists. Importing and exporting capabilities have been expanded to include time-billing data, inventory, and customer and vendor payment terms. Finally, the search function's new Advanced button lets you search by date range or amount range and within memo text.

Macworld's Buying Advice

Like previous versions, MYOB Accounting Plus 9.0 makes setting up and using some features confusing and unintuitive; several features and options are practically hidden. (For example, we created two pricing tiers for an item based on quantity purchased, and we then tried unsuccessfully to apply the pricing automatically to all customers who hadn't been assigned a tier. A call to technical support revealed that we had to set a preference to apply one tier to all items purchased by new customers.) Nevertheless, businesspeople will find that the multitude of features and capabilities in MYOB Accounting make the learning curve a worthwhile climb.—STEVE SCHWARTZ

RATING: **PROS:** Network-ready; TCP/IP support; multitiered pricing; supports foreign currencies; improved search function. **CONS:** Can be confusing to set up and use; has formidable learning curve. **COMPANY:** MYOB (800/322-6962, www.myob.com/us). **COMPANY'S ESTIMATED PRICE:** \$200; \$99 per additional workstation license.



visual means™ Search multiple collections.

gettyone.com™

Allsport Concepts

The Bridgeman Art Library

EyeWire

Hulton Getty

PhotoDisc

The Image Bank

Tony Stone Images

Lotus Notes Release 5

SERIOUS E-MAIL AND SCHEDULING FOR GROUPS

OFFICIALLY, THE TERM *GROUPware* applies to software that businesses can use to promote collaboration; in the real world, it tends to mean “e-mail plus scheduling.”

The name Lotus Notes was virtually synonymous with *groupware* a few years back, but the program wasn't available for the Macintosh. After several twists and turns following IBM's acquisition of Lotus, Notes landed on the Mac, first as a Release 4.6 and now as a Release 5 (R5) client. (The corresponding Domino server is still primarily a Unix and Windows product.) The Mac version does an excellent but idiosyncratic job of handling e-mail and scheduling; it even functions as a Web browser.

The Mac client is available in two slightly different versions. Notes for Collaboration is used on both remote servers in general and Domino R5-based servers, so it supports database features specific to Domino. Notes for Messaging offers many impressive collaboration functions (including group scheduling over the Web) but lacks Domino-specific functions.

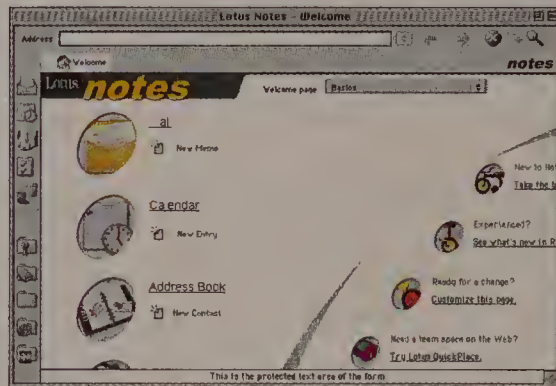
Open for Business

The basic architecture of Notes was developed before the rise of the Internet and the appearance of Web browsers, so it's not derived from Mosaic, as other Web browsers are. But the original programmers had the luxury of really thinking through what works and what doesn't in the way of business e-mail and scheduling. Notes lets you combine all your e-mail sources in a single in-box, works with all Internet e-mail protocols, and implements more and better security features than Microsoft Outlook and Netscape Communicator. Notes' e-mail component also sports a cool "soft" Trash function, a lifesaving feature that lets you recover deleted mail during a specified calendar interval. When you install Notes, it reads your Microsoft Internet Explorer and Netscape Navigator bookmarks and makes them available through icons on Notes' Welcome page (which you can customize with news headlines, stock quotes, and other Web components).

The scheduling functions support networkwide time management for inter-

active group calendars; detailed task prioritization; alarms; and total integration with to-do lists, contact lists, and Web elements such as bookmarks, images, and links. If you talk to users, you'll hear lots of enthusiasm for and loyalty to the program's scheduling features; when compared with online scheduling software, Notes really stands out.

Compared with other products at this level of complexity, Notes offers nearly effortless installation (it takes about 15 minutes). The client installer simply asks what connections you have (Domino server, standard ISP, or other remote con-



To the Letter Interface glitches notwithstanding, Lotus Notes Release 5 is the most powerful e-mail client available, with dozens of convenient options.

nection) and ferrets out all other pertinent e-mail and Web information on its own. Installing the Domino R5 server software is another matter. We tested it on a Windows NT 4.0 Intel-based workstation, and installation was a serious matter requiring attention to dozens of settings; your business will need someone with a solid systems-administration background to install and maintain the Domino server. And whereas the client manual is thorough but easy to read, the server manual is stronger stuff.

The Macintosh client is quite a bit slower than its Windows equivalent on comparable hardware. It also displays two of the problems characteristic of software ported to the Mac from Windows code. First are the “mystery hangs”—when you log off of your remote online connection, the system crashes about one time out of six. Second are the memory-management problems. If you click on the icon for Internet Explorer during a session, you

can't recover the memory used simply by closing that window. To be fair, the problem of not recognizing free memory when a function is closed is probably Microsoft's fault, since it happens in Office as well. Still, if Lotus puts an Internet Explorer icon on Notes' Welcome page, it should make sure it works.

Also, strangely, the labels for items on the Welcome screen are sometimes missing letters, so that *Mail* appears as *ai* and *Calendar* appears as *Caendar* (see “To the Letter”). Finally, one minor interface complaint stems from Notes’ long pre-Web history: what Mac user would expect the icon you click on to get your e-mail to be labeled not Mail but Replicator?

The Competitive Landscape

Realistically, there are no alternatives to Notes in its class. There are other schedulers, but none provide comparable flexibility and cross-network viewability to all groups. And there are other e-mail systems, of course, but compared with Notes, they're awkward and short on features. If Microsoft keeps adding Notes-style features to Outlook, Notes' nearest competitor as far as e-mail is concerned, Outlook 6 might be competitive with Notes R4.6, but it won't catch up to Notes R5 anytime soon. When Office 2000 hits the Mac, you could do some VisualBasic programming to implement a few Notes-like group-scheduling features, but very few PC users have successfully implemented groupware in Office.

Macworld's Buying Advice

If you need to coordinate communication and activities across several groups or offices, Lotus Notes Release 5 is superior to all other products currently available. The only wrinkle for Mac users is that some of Notes' features require that an IT professional implement the \$1,795 Domino server software on a non-Mac platform. For businesses large enough to have systems administrators, the power of Notes justifies the price.—CHARLES SEITER

RATING:  **PROS:** Great options for handling e-mail; flexible group-scheduling features. **CONS:** Macintosh version needs platform-specific refinement. **COMPANY:** Lotus Development (800/343-5414, www.lotus.com). **LIST PRICE:** Notes for Messaging, \$55; Notes for Collaboration, \$69.

"There's only one essential tool in Photoshop..."

— Scott Kelby, Editor, Photoshop User Magazine



... and that's the Intuos graphic tablet system. The Intuos Pen takes Photoshop's eighteen pressure sensitive tools* to a new level, so you can clone with precision and control, create perfect layer masks, or simply feather one image into another with ease. The pen is ergonomic as well – which is great, because nothing's worse than having your hand cramp up when you're chasing a deadline late at night. And, even though I'm president of the National Association of Photoshop Professionals, occasionally I have to use a program other than Photoshop – and Intuos lets me do incredible things in other pressure sensitive programs such as Flash, Painter, CorelDraw and Illustrator as well.

To put it in a nutshell, this baby is sweet. If you're interested in making your Photoshop images fly off the page, grab onto one of these – and hold on for the ride."

WACOM

800.922.2585

Check us out at www.wacom.com/intuos5 for Scott's best tips & techniques and a chance to win Canon's new 3 Megapixel s20.

* Airbrush, paintbrush, pencil, rubber stamp, pattern stamp, history brush, art history brush, sharpen, blur, saturate, desaturate, burn, dodge, magnetic lasso, magnetic pen, eraser, background eraser and smudge. In case you were curious.
©2000 Wacom Technology Corporation. Wacom and Intuos are registered trademarks of Wacom Company Ltd. No dolphins were harmed in the making of this ad. All rights reserved. Includes MetaCreations Painter Classic.

Circle 84 on card or go to www.macworld.com/getinfo

Details 3.0

SPECIALIZED PROJECT-MANAGEMENT DATABASE

TRADITIONAL PROJECT-MANAGEMENT software is useful for planning jobs and for letting you know whether you're falling behind schedule once a project has started. Unfortunately, these packages seldom track the fine points—submittals, change orders, and correspondence—crucial to a project's success. AEC Software's Details 3.0.1, a specialized database for small to medium-size graphic design, publishing, contracting, architecture, and manufacturing businesses, can help ensure that essential project information doesn't slip through the cracks.

Many professionals build FileMaker Pro databases or Microsoft Excel spreadsheets to record the specifics of their projects, but you're likely to find using Details 3.0 superior to creating your own databases or spreadsheets. First, the program's 70-plus specialized templates get you working quickly. These files contain preformatted fields, reports, and forms for project activities (expense reports, approvals, and phone logs, for example)—all you have to do is open a file and start entering your data. And several Details field types, such as Task Duration, aren't available in generic databases. As a result, Details' reports can include familiar project-management timeline graphs.

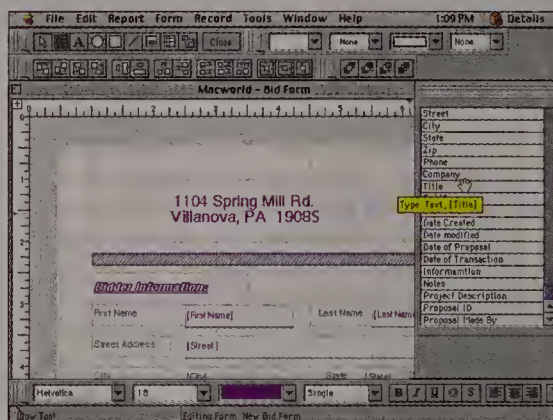
The new Forms function helps you modify existing forms or design new ones. Although forms are central to any good database, customizing Details' forms is especially easy. You can use intuitive drawing and properties palettes to drag and drop fields, place graphics, and make selections. This feature also lets you create electronic replicas of traditional paper forms and cut costs by printing documents on demand.

Time-savers

Usability features abound in Details 3.0. For instance, if you don't want to use a supplied template, you can build a new file quickly: you simply define your fields and then set up a report by selecting the fields you want to view. You don't face the daunting task of understanding relationships between fields,

records, and index files and other typical complexities.

Nevertheless, Details 3.0 doesn't skimp on expected database functionality, such as storing preset values for fields and drop-down lists. The application goes beyond typical databases, by including three specialized field types—Contact, Project Log,



More Than Functional Details 3.0.1's Forms Designer helps you create high-quality forms that contain just the information you need to collect.

and Submittal Log—for which the necessary subfields have already been defined.

Case in point: the Contact field contains address and phone-number placeholders. This thoughtful feature saves time when you're creating a database—and makes certain that users don't miss entering important facts, since related information is grouped in a single spot. And like a good project manager, Details offers a work calendar that accommodates shifts, weekends, holidays, and vacations. Consequently, the program accurately calculates the time needed to complete a job.

Professionals and support staff shouldn't have any trouble using Details 3.0. Data can be entered and edited either in forms or in the cells of a report. The displays are uncluttered, offering Navigation, Views, and Reports palettes that make it easy to shift among the screens.

Reporting Made Easy

Details' premade reports will be all most users need. For example, the Project Log format lets you store and report multiple tasks, dates, and durations for each record in your database. When used with the timeline graph, the Project Log is a powerful scheduling tool that works much

like a standard project manager's outliner or Gantt bar chart.

If you do want to create or customize a Details report, simply choose the fields you want to see, specify their order, define the search criteria, and decide whether dates should appear as a graph. You can store unlimited report formats for each Details database.

Another helpful feature, Generator, constantly monitors the database. This means you don't have to run a report routine after new data is entered; all report listings are always up-to-date.

High-quality forms and reports can be printed or used in presentations. However, Details saves a report as one large image (in JPEG, TIFF, PNG, or PICT format), making e-mailing reports or posting them on a Web site somewhat inefficient. A better approach would be to save reports as HTML files. This could prove very useful, especially if the HTML file included hyperlinks from a task to supporting details. That said, those using Details can easily embed links that launch an e-mail program or a Web browser or open attached files.

Another area in need of improvement is Details' data import and export. Although the program can exchange information with other applications through ASCII text files, it would save novice users a lot of headaches if Details included file-import and -export compatibility with common project-management software, such as AEC's SureTrack or Microsoft Project.

Macworld's Buying Advice

Details 3.0.1 offers several benefits for professional managers. Little experience is needed for database setup, use, and reporting, and the program offers project-specific functions that aren't found in other database software. It would be helpful if Details could exchange data more easily with traditional project managers and had more-sophisticated Web-based reporting. Overall, though, Details 3.0 keeps you from making costly mistakes because of lost project information—without requiring a significant time or financial commitment.—MIKE HECK

RATING: **PROS:** Custom forms; easy report building; supports multiple users. **CONS:** Awkward integration with other applications. **COMPANY:** AEC Software (800/346-9413, www.aecsoft.com). **LIST PRICE:** \$299.

"I wanted the best protection available and APC delivered."

— Fred Lugano, weatherization.com, Vermont

8 million computer users can't be wrong about APC power protection

Did you know a lightning storm can destroy your Mac system in the blink of an eye? Your precious hard drive, modem and RAM could be forever lost, not to mention peripherals like your zip drive, scanner, monitor and printer.

If you experience a high voltage power surge, an APC unit will sacrifice its life for your equipment. Our Lifetime Guarantee means you'll receive a brand new replacement APC, free of charge, usually within 48 hours. So your expensive electronics survive unharmed and you receive a brand new APC to boot!

Discover why 8,000,000 customers forsake the Brand X power strip and reach for APC. Visit any of our retailers or resellers today and ask about APC's Lifetime Guarantee.



The APC Back-UPS Office® provides affordable battery back-up for your computer, your peripherals and your fax/modem lines.



APC SurgeArrest® SurgeStation™

An APC SurgeArrest® gives you:

- Enough outlets to protect your computer plus displays, printers, scanners and more
- Telephone protection from surges and spikes (select models)
- Green "Protection Working" LED warns you if your APC circuitry has been damaged
- Red "Site Wiring Fault" LED automatically detects potentially dangerous wiring problems in the wall circuit

- Up to \$25,000 in Equipment Protection guarantee (U.S. and Canada only) Policy based on model purchased. For the iMac model the EPP will be \$10,000.
- APC will replace your SurgeArrest free of charge under its lifetime product warranty

An APC UPS also provides you:

- Emergency battery power for continuous uptime through brief power outages to help save your data

- Auto-shutdown software which saves your files and data, even when you're away from your computer
- Audible and visible alarms alert you to power events as they occur
- "Best in Class" longest runtime guarantee (5-40 minutes)

You can find APC power protection products at these stores or visit <http://promo.apcc.com> and click on "how to buy" to find your nearest reseller.



APC
Legendary Reliability™



Enter to win the APC Home Power Protection Package.

Enter to win APC's legendary power protection for your entire home, home office or small business, a \$3000 value!

All entrants will also receive an "Are You at Risk" Kit. (See APC's Web site for complete promotion details)

Enter now: Visit <http://promo.apcc.com> Key Code r844z • Call 888-289-APCC x8904 • Fax 401-788-2797

©2000 American Power Conversion. All Trademarks are the property of their owners. APC1D0EF-US • PowerFax: (800)347-FAXX • E-mail: apcinfo@apcc.com • 132 Fairgrounds Rd., West Kingston, RI 02892 USA

Circle 72 on card or go to www.macworld.com/getinfo

Rocket eBook Pro

NICE FEATURES BUT WEIGHTY DESIGN

WITH NEWSPAPERS, MAGAZINES, and even greeting cards springing up online, print on paper seems to be headed the way of the dodo. NuvoMedia hopes its Rocket eBook Pro will do the same thing for books. This paperback-size handheld device stores electronic versions of books, offering avid readers an innovative way to haul around a modest library. But don't shed any tears for the printed word just yet—NuvoMedia needs to fix a weighty design flaw if the eBook is to gain wide acceptance.

The setup process is easy enough: you just insert the RocketLibrarian CD-ROM, click on the icon, and follow the instructions. The eBook's cradle hooks up easily to a serial port; iMac, G3, and G4 users will need a USB adapter.

Our unit came with two preloaded titles—*Alice's Adventures in Wonderland* and an electronic dictionary—along with an electronic user's guide. To store additional books on your eBook, you have to download them from NuvoMedia's Web site or from a retailer's site. Downloading is a snap: we were able to order an electronic copy of




The Adventures of Huckleberry Finn from www.barnesandnoble.com, download it, and store it on the eBook in about 10 minutes. You can store roughly 40 paperbacks on the eBook Pro. (The less expensive standard model, the \$199 Rocket eBook, can store about 10 books.) You can delete titles from the eBook, though they remain stored on your Mac's hard drive.

The eBook includes some handy features, most notably a long battery life. NuvoMedia claims the battery will last up to 40 hours with the backlight feature turned off. We kept our eBook on for more than 2 hours and barely made a dent in the battery's power supply. Other nice features include the ability to add bookmarks, underline text, and write notes to yourself using a stylus and an interface reminiscent of a Palm Pilot's. The eBook

even looks like an oversize PDA. But at 22 ounces, it's heavier than most handheld devices—certainly heavier than your typical paperback. Another design flaw is that the eBook is bottom-heavy, making it awkward to hold.

Other issues to keep in mind are cost and selection. Some electronic books sell for less than their print counterparts—as much as 60 percent less for older titles. Other electronic books cost *more* than their print counterparts. In any case, the \$269 you'd spend on the eBook Pro could buy an armload of books. And at this point there are simply more books available in print than in electronic form; Barnes and Noble's Web site lists about 2,400 electronic titles.

Macworld's Buying Advice With its large storage capacity and long battery life, the Rocket eBook Pro is ideal for bibliophiles on the go. But casual consumers may find the steep price off-putting, and the eBook's heft may leave readers pining for old-fashioned paperbacks.—PHILIP MICHAELS

RATING:  **PROS:** Easy setup; downloading electronic books is a snap. **CONS:** Bulky and awkward; expensive. **COMPANY:** NuvoMedia (877/776-2538, www.rocket-ebook.com). **LIST PRICE:** \$269.

Unreal Tournament

BEST NETWORK SHOOTER FOR THE MAC

THE FINAL RELEASE OF MACSOFT'S stellar Unreal Tournament lays to rest any concerns that *Macworld* acted precipitously in giving the then-unreleased shooter a place in the 1999 Macworld Game Hall of Fame (December 1999). Unreal Tournament is quite simply the best networkable 3-D shooter on the market today.

The key word here is *networkable*—although Unreal Tournament offers solo action, the single-player game is largely intended as training for network play. The game has almost no plot; your job is to kill or be killed. Your opponents in the single-player game are “bots,” who—unlike the mechanized beasts found in earlier 3-D shooters—behave more like humans than like scripted robots. If you fire on an enemy, expect that enemy to dodge and duck while seeking the most efficient means of scattering your virtual giblets from one end of the game to the other.

Naturally, Unreal Tournament offers Deathmatch play, where it's you against the world, but it also supports cooperative play in Capture the Flag and in Domination—a



Comely Carnage With its beautiful environments and furious action, Unreal Tournament is a winner.


game where you and your team attempt to maintain control of checkpoints on a map. There's also Assault, where your team must defend or attack an installation.

This may sound like run-of-the-mill fare in a 3-D shooter, but what's extraordinary about Unreal Tournament is its level of refinement. If you've played the original Unreal, you can imagine how beautiful Tournament is. The game also boasts a wide variety of nicely balanced, intelligently designed maps. Special features include the ability to fly through a level before single-player battle begins, giving you an opportunity to case the joint before the firing starts; the option to be a spectator in team games; and the ability to configure the look

as well as the behavior of individual bots—how alert they are, their favorite weapons, and their firing accuracy. You can even configure the game with special options called Mutators—these include low-gravity play; a mode in which all players are invisible; and Fatboy, which causes those players who perish routinely to get very skinny and those who have loads of kills to swell up, becoming easier targets.

Unreal Tournament isn't for everyone. Although you can turn down the gore and questionable language, the point of this game is to kill other virtual humans—male and female alike. If you oppose this sort of violence, steer clear. Also, if you don't have a G3 or G4 and robust 3-D-acceleration hardware, you'll be playing the game in a tiny window or with poor graphics.

Macworld's Buying Advice If the violence and hardware requirements don't unsettle you, you'll find Unreal Tournament nothing but unwholesome, bloody fun.—CHRISTOPHER BREEN

RATING:  **PROS:** Glorious graphics; varied game play. **CONS:** Hearty hardware requirements. **COMPANY:** MacSoft (800/229-2714, www.wizardworks.com/macsoft). **LIST PRICE:** \$50.



creativepro
c o m

Asset Management
Design & Layout
Fonts & Typography
Illustration
Imaging

Motion
Prepress & Printing
Stock Photography
Systems & Hardware
Web Publishing

where creative business clicks. www.creativepro.com/mw

Creativepra.com Inc. 1.800.796.9798, 503.274.2020, Fax: 503.274.0530. © 1999 Creativepra.com. All rights reserved. Creativepro.com and the Creativepra.com logo are trademarks of Creativepra.com Inc. CPMWNA011199

Palm-Compatible PIMs

CONSULTANT SPLITS INTO PERSONAL ORGANIZER, GROUP ORGANIZER

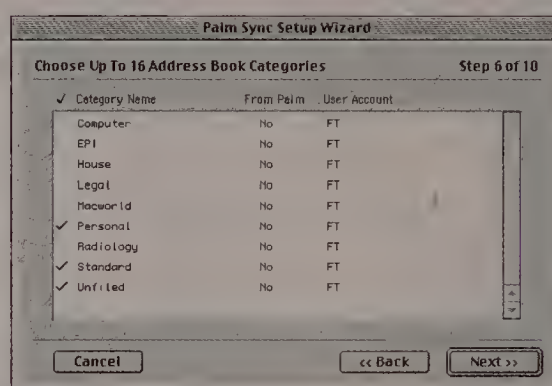
CONSULTANT 2.5.3 WAS A RELIABLE PIM whose claim to fame was its synchronization with the Palm family of handheld organizers (see *Reviews*, April 1999.) Alas, limited alarms and other flaws detracted from an otherwise solid application. In response to requests for robust multiuser support, Chronos has split Consultant into two separate products: an updated version, Personal Organizer 3.0.1; and Group Organizer 3.0.1, a server-based program that lets users share contact and schedule information over a network.

Personal Organizer 3.0.1 sports a number of useful under-the-hood enhancements. For example, you no longer have to install a system extension to receive pop-up reminders; instead, a background application checks for alarms. Another program notifies you of the alarm and lets you dismiss or snooze it.

Unfortunately, Chronos hasn't remedied some of the deficiencies our last review mentioned. Notably, Personal Organizer

still doesn't support timed to-do's: if you have to pick up the kids at exactly 4:30 p.m., for example, there's no simple way to put the task into your schedule. Personal Organizer's event-entry dialog box also makes you reach for your mouse far too often.

Despite a few start-up glitches, synchronization was fast and reliable on our system. However, Personal Organizer still insists on placing Palm to-do's on the current day rather than on the item's due date. Even if you have hundreds of completed



In Sync Personal Organizer 3.0's Palm Sync setup wizard lets you choose which categories to synchronize.

tasks in your organizer, they all show up on the same day in your calendar.

Although Personal Organizer offers rudimentary multiuser support, only one person at a time has access to the data file. Group Organizer, in addition to providing all of Personal Organizer's functionality, uses a separate server application to let users simultaneously access contact and calendar data over an AppleTalk or TCP/IP network. However, we weren't able to set up our PowerBook G3 as a Group Organizer server without help from the company's technical-support staff, which responded promptly to our e-mailed inquiries.

One major drawback with the current implementation is that you must enable guest access and program linking on the remote computer, leaving the server vulnerable to tampering. We also found Personal Organizer's paradigm for controlling each user's file access a bit confusing.

Macworld's Buying Advice

It's gratifying that Chronos has continued to upgrade and support Personal Organizer, but Mac users looking for a stand-alone PIM can download 3Com's free MacPac 2.5. Personal Organizer also faces competition from the resurrected Now Contact/Up-to-Date bundle, which Power On Software has updated to work with Mac OS 9. (Palm synchronization should be available later this year.) Still, if you need a Palm-compatible PIM right now and MacPac's feature set isn't rich enough, Personal Organizer is a good choice. Until Chronos makes some vital changes to Group Organizer's data-sharing protocol, however, we can't recommend it as a multiuser PIM.—FRANKLIN TESSLER

Group Organizer 3.0.1

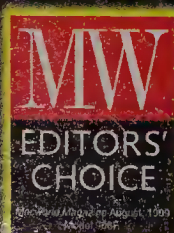
RATING: ★★★½ **PROS:** No system extensions; improved alarms. **CONS:** Poor documentation; requires guest access to server. **COMPANY:** Chronos (801/957-1774, www.chronosnet.com). **LIST PRICE:** \$100.

Personal Organizer 3.0.1

RATING: ★★★½ **PROS:** No system extensions; improved alarms. **CONS:** No timed to-do's; Palm to-do's appear on current day. **COMPANY:** Chronos (801/957-1774, www.chronosnet.com). **LIST PRICE:** \$60.

Add SCSI to G3/G4 (and Serial)

Grappler[®] + SCSI



"Best Product...."
"Best Price"

\$49.00

Ideal for Your New G3/G4 Power Macs

Our Newest Grappler+ is a combo card with Fast SCSI and 2 Serial Ports for your legacy printers, cameras, and other serial devices; and it only takes up one slot!

The World Magazine's Editor's Choice award went to Orange Micro's Grappler SCSI card for three reasons: 1. "fastest in its class" 2. "least expensive card in its category" and the only one that was bootable*. Make Grappler SCSI your choice.

Grappler+ SCSI/Serial	\$109
Grappler Fast SCSI	\$49
Grappler Ultra SCSI	\$69
Grappler Ultra Wide SCSI	\$119



www.orangemicro.com

*August 1999 MacWorld Magazine ©2000 Orange Micro, Inc.

Circle 60 on card or go to www.macworld.com/getinfo

ViewSonic® will improve your image with... **PerfectFlat® Technology**



Big screen, PerfectFlat technology, outstanding color and a ton of bandwidth – the new PF815 has it all. The screen is a big 22" (20.0" viewable) and utilizes ViewSonic's PerfectFlat technology for edge-to-edge precise images and minimal glare. A flicker-free maximum resolution of 1,920 x 1,440, refreshing at 75Hz and a wide video input bandwidth of 300MHz, delivers a sharp and crisp image even at very high resolutions. A super-fine 0.25-0.27mm variable aperture grille pitch provides high contrast for ultimate image clarity and outstanding color saturation. OnView® controls including

advanced color purity adjustment for all four corners of the screen gives you even, color performance, making the PF815 the ideal choice for pre-press, imaging, animation, desktop publishing and graphic design.

At ViewSonic, we offer the #1 best selling monitors and flat panel displays in the USA*. Buy with confidence from the company that's won over 600 industry awards. Our warranty covers 3 years parts and labor. Plus 24-hour customer service, 7 days a week.



The Visual Technology Company™

ViewSonic
on top™

For more information on the company that's won over 600 industry awards, visit our website at: www.ViewSonic.com/pf815

(800) 888-8583 • Specifications subject to change without notice. • Copyright © 2000, ViewSonic Corporation. • Corporate names and trademarks stated herein are the property of their respective companies. *ViewSonic ranks as United States' #1 best selling flat panel display and the leading non-captive monitor brand by Stanford Resources, Inc. (Flat Panel Monitor, Q3 '99 and Monitor Q3 '99).

Watch & Smile

NOTABLE FEATURES, LOUSY INTERFACE

GIVEN THE CURRENT GLUT OF digital cameras, software developers are rushing to market with inexpensive photo-editing programs for consumers. Binuscan, a company best known for high-end scanning software, has joined the fray with Watch & Smile 1.0, an inexpensive package that combines image-editing, digital video, and multimedia functions. The program packs some impressive features, including photo-retouching tools derived from the company's professional software. Unfortunately, Watch & Smile suffers



Mac Hostile Watch & Smile's poorly designed interface is about as un-Mac-like as it gets.

from a poorly conceived interface that violates Macintosh software conventions in every way imaginable.

Watch & Smile is loosely based on a television metaphor. When you launch the program, a video of a TV monitor takes over the screen. You then click on that monitor's on/off button to enter the Watch & Smile workspace. At the top of the workspace is a scrollable horizontal filmstrip that can contain as many as 255 frames, which the program refers to as *scenes*. Each scene can contain multiple images, text, or videos; you can also record a soundtrack from an audio CD or the Mac's built-in microphone. When you complete a job, you can export the frames individually or as QuickTime movies complete with transitions.

Watch & Smile offers a huge array of photo-retouching features. You can adjust brightness, contrast, saturation, and sharpening using a paint tool or global slider controls; when modifying brightness, you can work on the entire image or within red, green, or blue color channels. The program also includes an

autocorrection tool for enhancing low-quality images; a clone tool, similar to Adobe Photoshop's, for reproducing one part of an image in another; a pen tool for making clipping paths; and tools that let you add warping and perspective effects to your images.

Watch & Smile's multimedia features, while somewhat limited, offer nearly everything you need to create simple movies. You can move and copy scenes, set the display time for each frame, and choose from a variety of transition effects. You can test your movies using a VCR-like controller at the bottom of the screen.

Although Watch & Smile sports a hefty feature set, Mac users may find the proprietary interface, which relies heavily on cryptic icons, incredibly frustrating. Even fans of MetaCreations' wild-looking interface designs will likely find that this program goes too far in sacrificing function for style. It not only takes over your Mac, but also won't even let you switch to the Finder or another application without quitting the program. Forget about using any Mac-standard keyboard shortcuts: if you press \mathbb{H} -Z to undo an operation or \mathbb{H} -Q to quit, nothing happens. Exiting the program is an especially frustrating endeavor: you click on one on/off button, and then you end up in a separate screen with a different on/off control, which finally lets you quit. Adding insult to injury, the program lacks any rollover tool tips and provides few text labels to offer clues about each control's functions.

Macworld's Buying Advice

Considering its price, Watch & Smile offers an impressive array of photo-retouching and multimedia features. However, the poorly conceived interface will frustrate many users as they try to take advantage of those features. The most glaring omission is the inability to switch to other applications while using the program—it literally takes over your Mac until you quit. We also found performance sluggish, even on a 333MHz G3 system.—STEPHEN BEALE

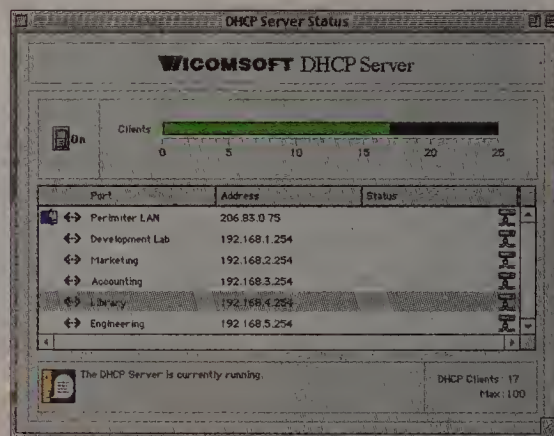
RATING: $\frac{1}{2}$ **PROS:** Affordable; extensive photo-retouching and multimedia features. **CONS:** Slow performance; poorly designed interface. **COMPANY:** Binuscan (212/681-0600, www.binuscan.com). **LIST PRICE:** \$90.

DHCP Server 6.5

SIMPLE IP ADDRESS ADMINISTRATION

NOW THAT ALMOST ALL MACINTOSH network services—including personal file sharing under OS 9—operate over TCP/IP, network administrators are discovering the travails of managing IP addresses in large networks. With TCP/IP, every user must have a unique IP address, subnet mask, gateway address, and DNS server address. You can administer about a dozen users manually, but beyond that number IP address management becomes a nightmare. Dynamic Host Configuration Protocol (DHCP) ends the bad dream by doling out IP address information to end users from a central server. Alas, while Macs can act as DHCP clients, no version of the OS has built-in DHCP server support.

Vicomsoft's DHCP Server 6.5 fills that gap, competing with commercial DHCP servers that run on Windows or Unix or as part of a dedicated network device. Vicomsoft's server boasts a low price and the ability to run on low-end Mac hardware (68040 processor, 8MB of RAM, and Mac OS 7.5.3 or higher). And unlike an embedded DHCP server, such



Dynamic Delivery Vicomsoft's DHCP Server 6.5 automatically doles out IP addresses to users, even in complex networks with multiple IP subnets.

as the one built into SonicWall's firewall, Vicomsoft's server doesn't forget all of its DHCP assignments when rebooted—a significant advantage on a large network with dozens or even hundreds of users.

DHCP Server comes preconfigured to deliver 253 addresses in a standard private IP address range and subnet mask. You need only specify the IP address of your Internet gateway, a company domain name, and the addresses of as many as five DNS servers; DHCP Server then configures your clients—Mac, Windows, or

Unix—with these values. A Gateway extension lets you run other TCP/IP services, such as DNS, e-mail, and Web servers, on the same machine. An optional \$29 remote-administration application enables you to configure and monitor DHCP Server from anywhere on your network.

Some machines, such as servers, require fixed IP assignments so users can locate them. DHCP Server has a workable, if ungraceful, provision for fixed addressing: you list these servers in a text file as IP-Ethernet address pairs. DHCP Server then uses the specified IP address instead of choosing one dynamically.

DHCP Server supports multiple Ethernet interfaces, letting you use a single server for more than one physical network. It also permits multiple IP address ranges on a single Ethernet interface—handy if you use IP addressing and a local router to separate user groups into different IP address ranges. DHCP Server can deliver as many as 1,024 IP addresses, so it can support even large networks.

DHCP Server does its job well but lacks two advanced features needed to make it a truly enterprise-class product: dynamic DNS and automatic fail-over. Dynamic DNS is a standard for maintaining domain-name associations with user IP addresses even when those addresses change. Without dynamic DNS, users must contact each other in advance to learn their IP addresses when they want to exchange files via personal file sharing. Automatic fail-over lets you run a backup DHCP server that maintains a copy of the DHCP database, so failure of the primary server won't cripple your network.

Macworld's Buying Advice

If you're running TCP/IP for a growing network, IP address administration is a nasty chore you can't ignore. If you have a network with several hundred users, Vicomsoft's DHCP Server 6.5 will simplify your life. Although DHCP Server lacks some advanced features, the advantage you gain by keeping this administrative function in the Macintosh fold makes it a good choice for basic DHCP.—MEL BECKMAN

RATING: ★★★½ **PROS:** Inexpensive; supports multiple address ranges and Ethernet cards; remote-administration option. **CONS:** Lacks dynamic DNS support; no automatic fail-over; awkward interface. **COMPANY:** Vicomsoft (800/818-4266, www.vicomsoft.com). **LIST PRICE:** \$95.



FireWire or USB Hard Drives Ready...Set...Go!

Ready! Boost your storage capacity by 6 Gigs with PowerHD from TechWorks! Complete with a FireWire or USB cable, AC adapter, manual and Disk Drive TuneUp Special Edition, it's "hot-pluggable", making it READY to use out of the box.



Set! The PowerHD is available in the complete set of 5 iMac flavors. Mix or match a FireWire model with your iMac DV or G4, or try a USB model with your iBook or iMac.



Go! PowerHD is super portable. The total weight, including the AC adapter, is less than one pound! Just pick it up and GO!



PowerHD – a simple solution for adding hard disk drive space to your Mac. Give us a call at **800.434.4032**, or visit us online at www.techworks.com to order one today!



Why wait? Just plug & play!



Power To Perform™

© TechWorks is a registered trademark of TechWorks (Delaware) Inc. All other names are registered trademarks of their respective companies.

Circle 129 on card or go to www.macworld.com/getinfo

Starry Night

REALISTIC ASTRONOMY PROGRAM

DID YOU EVER WONDER WHAT the view would be like from Pluto? Want to fly into the Sun without getting flambéed? Now you can take a virtual trip to the heavens using Sienna Software's *Starry Night Backyard* and *Starry Night Pro*, a pair of programs that provide navigable star maps incorporating a wealth of astronomical information. The \$64 *Starry Night Backyard* is aimed at beginning-to-intermediate stargazers; the \$149 *Starry Night Pro* adds features for astronomers and serious hobbyists.

Both versions present a view of the night sky from any location you choose—including other planets. As you mouse over a celestial object, its name and distance from Earth appear next to it. Double-clicking on the object brings up a dialog box with extensive information about it, including distance, surface temperature, and luminosity. You can then click on the Go There button to launch an animated trip to that object. In addition to planets and stars, the star maps include constellations, comets, and orbiting satellites. If you want more information, the program accurately provides topic-specific



To the Stars When you move your mouse over a star or planet, a label appears.

links to NASA's Web site and to Livesky.com; the latter includes links to a variety of astronomy sites. In addition to searching for planets or satellites in the star map, you can also select them from a Planets palette.

As you move through the heavens, you can print star charts and produce QuickTime movies of your animated journey. The Backyard version limits these movies to a 320-by-240-pixel selection; in the Pro version, you can select the entire sky view.

The Backyard version includes What's Happening Tonight, a link to Livesky.com that provides information about nightly celestial events, and Interesting Events, which takes you ahead or back in time to catch eclipses and planetary alignments.

Starry Night Pro adds features for advanced stargazers and incorporates a much wider array of celestial bodies, including comets, asteroids, and Messier objects—star clusters, nebulae, and galaxies originally plotted by 18th-century astronomer Charles Messier. A night-vision option, useful when you're using your computer with a telescope, adds a heavy red cast to your display, making it easier on your eyes when you look from the screen to the sky.

Macworld's Buying Advice Anyone with an interest in the skies above will find either version a rewarding educational experience. If you are a serious stargazer—or you want to create full-screen QuickTime movies—spend the extra money for the Pro version. However, the Backyard version also provides lots of quality stargazing for a more affordable price.—BRETT LARSON

RATING: **PROS:** Easy to use; thorough astronomical information; intelligent Internet links provide plenty of resources for more information. **CONS:** Limited QuickTime resolution in Backyard version; some Internet features lacking in Pro version. **COMPANY:** Sienna Software (416/410-0259, www.siennasoft.com). **COMPANY'S ESTIMATED PRICE:** *Starry Night Backyard*, \$64; *Starry Night Pro*, \$149.

Dazzle Digital Photo Maker

CAPTURE AND EDIT VIDEO AND STILLS ON THE CHEAP

UNLESS YOU'VE BEEN LIVING under a rock, you know that we're in the midst of a digital video revolution. If you're itching to be a revolutionary but don't want to spend \$700 or more for a digital video camera, Dazzle Multimedia's *Dazzle Digital Photo Maker* will let you capture videos and stills through a tiny \$100 device that connects your Mac's USB port to any video camera or VCR. The Dazzle's image quality and playback performance are ideal for users who want to edit and distribute movies over the Web or on CD-ROM, although the Mac version of the software leaves something to be desired.

The Dazzle hardware is a tiny, translucent, Bondi blue box with a single USB port on one side and three video connections on the other. You connect your video camera to the Dazzle hardware using an S-Video or composite RCA connector; a video pass-through connection lets you hook the device up to a TV or an NTSC monitor.

The software allows bare-bones capture and cuts-only editing. After specifying video settings, you can play a video from your camera using the software's preview



Video Lite The *Dazzle Digital Photo Maker* lets you drag clips from a scrapbook onto a timeline.

window. Clicking on the Capture Photo button grabs a single frame and stores it as a still image. For simple video editing, you can set start and stop points and then drag selected video clips to a rudimentary timeline for sequencing.

To delete a clip from the timeline, unfortunately, you have to hold down the shift key while clicking on the clip to open a pop-up menu—a very Windows-like approach. You get little or no visual feedback while dragging clips around, and the Dazzle lacks an audio editor or facility for adding music beds or voice-overs.

A simple editing and retouching tool lets you correct and change still images. The Dazzle software is a competent editing environment, though the hardware's 320-by-240-pixel limitation for stills can prove frustrating. And rather than having to grab a still in real time, we'd prefer the ability to grab video and select a single frame to save.

Macworld's Buying Advice Although the software needs some improvements and streamlining, the *Dazzle Digital Photo Maker* is a very good tool for aspiring Web and CD producers. If you need to create simple videos and don't want to spring for a FireWire-equipped digital video camera, this is a great place to start.—BEN LONG

RATING: **PROS:** Can digitize video from any source; simple hardware. **CONS:** Software doesn't allow additional audio tracks; un-Mac-like interface. **COMPANY:** Dazzle Multimedia (888/436-4348, www.dazzle.com). **LIST PRICE:** \$100.



see things differently.



Presenting the head-turning digital video camera — the Kritter[™]USB.

By utilizing isochronous transfer technology (really fast), delivering 320 x 240 (CIF) at 30 fields-per-second (really smooth), the Kritter[™]USB provides the highest-quality video possible in the USB environment. This means a bigger picture, better color and lots of second looks.

For more information and complete specifications, visit us at www.irez.com/spy or call 1-480-922-0044.



Closes up / Sets up on flat surfaces / Optional wand and base assembly

©2000 PAR Technologies, Inc. All trademarks are the property of their respective owners.

Circle 143 on card or go to www.macworld.com/getinfo



Earthmate

UNEVEN GPS DEVICE

WHEN NOT EVEN MAPQUEST and MapBlast can get you where you're going, you may need a Global Positioning System (GPS) receiver. GPS devices determine your geographic location using signals transmitted by a ring of satellites orbiting Earth. One such receiver is DeLorme's Earthmate, a small, battery-powered box that attaches to your Mac's serial port. With its software, Street Atlas USA 6.0, the Earthmate can

show you a full-color street map of your location and track you as you move. But although the software is quite impressive, the hardware is plagued with problems.

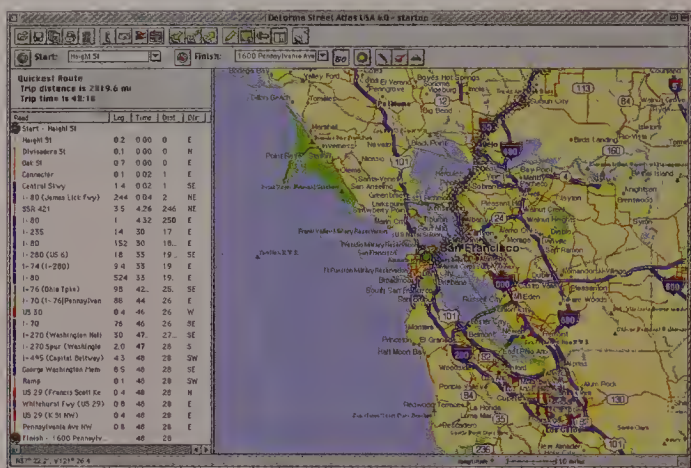
Slightly larger than a deck of cards, the Earthmate receiver is a featureless yellow box sporting a standard serial cable. Setup involves nothing more than inserting four AAA batteries, attaching the unit to your Mac, and installing the software from a CD. To use the unit, you position it, launch Street Atlas, and tell the receiver to locate itself. Once the Earthmate knows where it is, your position is displayed as a green circle on a Street Atlas map. Tell the program to start tracking your movements, and the circle changes to a moving arrow that indicates your current position and bearing—at least in theory.

We found that the Earthmate could rarely hold its satellite lock for more than a few minutes, even with fresh batteries. The problem worsened when we drove among the tall buildings of San Francisco's Financial District. And since the unit needs to see as much sky as possible, you'll need to put it on the very front of your dashboard and find a way to keep it there. Even when the Earthmate *can* maintain its satellite

lock, it can be off by as much as a city block.

The software is more impressive. In addition to detailed maps of the United States, Street Atlas provides trip-planning and -routing features. Pick two locations, and Street Atlas chooses a route between them. You can easily customize the route; for example, you can specify which types of roads you prefer to drive on. But unlike some GPS software, Street Atlas doesn't indicate when you've strayed from a planned route, nor can it use the Mac's speech facility to dictate driving directions. Sure, backseat drivers can be a drag, but trying to keep an eye on your PowerBook while driving is hardly practical.

Macworld's Buying Advice No matter how much trouble folding maps is, it's still easier than keeping the Earthmate working. Its Street Atlas USA 6.0 software shines, but the Earthmate's reliability problems make this a hard package to recommend. If you really need to find yourself, invest in a good road atlas.—BEN LONG



Find Your Way The Earthmate's Street Atlas USA 6.0 software lets you plan and customize your route.

RATING: **PROS:** Software is fast and well designed. **CONS:** Easily loses link with GPS satellites; tracking is not always accurate. **COMPANY:** DeLorme (800/452-5931, www.delorme.com). **COMPANY'S ESTIMATED PRICE:** \$199.

Simply Postage

PRINT YOUR OWN STAMPS FROM A MAC

NOTHING MEASURES ONE'S commitment to the maxim "time is money" like paying for a service that's free but potentially time-consuming. For example, if you routinely make trips to the post office to purchase postage, you may find it more expedient to pay a surcharge for the convenience of printing postage from your Mac. You now have the opportunity to do just that with Neopost's Simply Postage 1.0.

When you buy Simply Postage, you get a CD-ROM and a manual. After you register the software, Neopost ships you a Simply Postage printer as well as a roll of 100 blank stamps. Your Simply Postage account comes with \$50 worth of "free" postage—the \$50 you paid for the program. For an additional \$40, Neopost includes a small scale—capable of weighing items up to 4 pounds—that connects to the Simply Postage printer. The printer connects to a Mac's serial or USB port and includes a serial-to-USB adapter.

Printing postage is easy: just launch the Simply Postage application, click on the Create A Stamp button, enter the weight



ROBERT PERRY

of the item you wish to mail, select the postage rate (domestic first-class letter or priority mail, for example), type the destination zip code, and click on the Print Now button. If you have the scale attached, you can click on the Get Item Weight From Scale option, and the program enters the weight and the price of postage. Within seconds, the printer rolls out a self-adhesive stamp about the size of a small shipping label. If you need a stamp with a value you've previously defined—33 cents, for example—you simply push a button on the printer. This works whether or not you have the Mac turned on.

Neopost makes no money from the hardware; you pay for the service and consumables. The company charges a monthly service fee of \$9.95 (charged to your credit card or deducted from your

bank account), \$5 every time you purchase postage (the machine holds up to \$500 worth), and \$7 for a roll of 100 blank stamps (discounted if you purchase two or more rolls). A Purchase Postage button in the software logs you onto the Neopost server, downloads the desired postage to the printer, and debits your account. Federal regulations require the auditing of the printer every 90 days—a service provided via Neopost's Web site.

Our original test unit failed to work, but the follow-up one performed flawlessly. Our only complaints about Simply Postage are that the stamps are quite large and the printer isn't networkable—you can print stamps only from the Mac to which you attach it.

Macworld's Buying Advice The Simply Postage printer works as advertised, and the software is easy to use. If you're a SOHO user who can afford this kind of convenience, Simply Postage is simply marvelous.—CHRISTOPHER BREEN

RATING: **PROS:** Fast; easy to use. **CONS:** Not networkable; large stamps. **COMPANY:** Neopost (877/397-8267, www.simplypostage.com). **LIST PRICE:** \$50, plus \$9.95 per month and additional ongoing fees.

Want to see the big picture? Reach for the Gold.



Priced
as low as
\$99!*
*After \$40 rebate

iTView displays your iMac on any size TV

Get ready to look at your iMac in a whole new way. iTView Gold mirrors your iMac's video display on any TV, giving you sharp images and true color. Outstanding video quality for viewing DVD movies. And recording iMovies to any standard VCR. When do you need TV mirroring? The question is, "When *don't* you need it?"

It lets educators make a big difference

iTView Gold enhances the teaching and learning experience by letting an entire class see the big picture. Educators can create an interactive learning environment, and captivate the classroom with eye-catching graphics and annotations. Students can record their work on a VCR for home viewing.

And lets business users make a big impression

iTView Gold fits seamlessly into any business environment. Whether you're previewing a web site, editing digital video, or administering training, iTView Gold makes it easy to deliver content to groups while preserving all the quality and impact of the original work.

iTView DV: The iDeal enhancement for iMac DV

Designed to enhance the video capabilities of the iMac DV, the iTView DV lets families enjoy their favorite DVD movies together, and lets amateur filmmakers create, edit, and manipulate their footage on any size TV. Record your iMovies onto videotape. For video content that's positively eye-popping, connect your iMac DV to a big-screen TV. \$40 rebate ends 6/30/00, limit one per customer.



Connect your iMac to a television
with iTView, and record your
creations onto videotape!

Get the big picture! Order today by calling

800-356-3920

www.focusinfo.com

FOCUS

enhancements

superior video conversion technology

MacWAREHOUSE

COMPUSA
THE COMPUTER SUPERSTORE

ELECTRONICS
Fry's

MICRO CENTER

Go to www.focusinfo.com for a complete listing of International dealers.

iTView is a registered trademark of FOCUS Enhancements, Inc. FOCUS claims all trademark rights to iTView DV, iMac, iMac DV, and iMovie are trademarks of Apple Computer, Inc., registered in the U.S.A. and other countries.

FotoStation 4.0

SIMPLE IMAGE CATALOGING

CHEAP SCANNERS AND DIGITAL cameras, not to mention a world of pictures on the Web, make it easy to amass a huge library of images. If a glut of images is swamping you, eRoket.com's FotoStation 4.0, an image-cataloging and -management application with a small footprint and speedy performance, may be worth a look. Unfortunately, the program's weak search function and rough interface might make you think twice.

FotoStation's interface consists of a large window for displaying images and a pane containing folders for organizing those images. Folders are either aliases or albums: clicking on an alias displays the contents of a folder as thumbnails, while albums are more like traditional catalogs that let you organize images by category. Although you can't access albums with a single click in the folder pane and you can't add to an album by dragging and dropping, it's a nice approach to media management.

You can either double-click on a thumbnail to view it at full-screen size or launch the image's creator application from a menu. You're also able to tag some images with



Clean Up Your Images FotoStation 4.0's thumbnail view lets you display a folder on your hard drive or a catalog of images stored in a FotoStation album.

standard IPTC (International Press Telecommunications Council) information, and you have access to tools for applying the same text to a number of images. Unfortunately, not all images can be tagged.

Cataloging in FotoStation is fast. The program took only three seconds to catalog a folder of two dozen graphics files. Unfortunately, FotoStation catalogs everything in a folder—even files that aren't images. While you can define filters to exclude certain file types, it's a hassle. And although FotoStation recognizes QuickTime movies, it can't play them.

Interface problems plague FotoStation. Default buttons don't always work, and the

menu display is sometimes buggy. One inexcusable feature: if you delete an image from an alias, FotoStation deletes that image from your hard drive with no warning.

If a database is only as useful as its search functions, FotoStation is in trouble. Its shockingly simple Find command lets you use only two criteria and one condition, either AND or OR. You can't search for a particular file type, you can't use wild-card characters, and the program's conditionals don't allow complex searches. Still, these limited searches are speedy.

FotoStation includes basic image-editing tools and can create slide shows and simple Web pages. These features are nice, but eRoket.com should concentrate on improving the cataloging tools.

Macworld's Buying Advice FotoStation 4.0's overall design works, but the program's rough interface and pathetic search tool make it frustrating to use. If your image-management needs don't include powerful searches, however, FotoStation might be a good tonic for your media glut.—BEN LONG

RATING: ★★★ **PROS:** Speedy; small footprint. **CONS:** Rough interface; weak search function. **COMPANY:** eRoket.com (949/454-8469, www.eroket.com). **LIST PRICE:** \$145.

MAKE YOUR OWN MOVIES? IT'S A PIECE OF CAKE!

Connect your Digital Camcorder to your Computer and Make Movies.

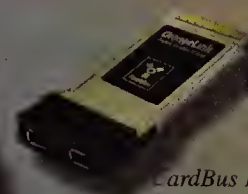
With the OrangeLink® FireWire® 1394 products from Orange Micro, you can easily connect your new DV camcorder to PCs and Macs. Load up the included video editing software (Ulead® VideoStudio™ or Adobe® Premiere LE®) and watch out George Lucas!

You're now the director, and making movies is a snap. Cut and paste video clips, add titles and credits, music or voice overs, and a host of scene transitions to give your movie a professional touch.

Lights! Camera! Action! Making Desktop Movies is a piece of cake with OrangeLink.



PCI Boards for Desktops: \$129-\$159



CardBus PC Card for Portables: \$149

OrangeLink
FireWire® 1394 Series

Orange Micro
inc.
www.orangemicro.com

The Internet-Savvy Contact Manager & Calendar



Whether you drive a desktop Mac (even a trusty old 68K machine running System 7), pound a PowerBook, or pack a Palm®, you need Now Up-to-Date & Contact, the best choice in contact management and calendaring. No other product allows you to keep track of your contacts and schedule so easily. With its ability to recognize common phrases and automatically enter items on your calendar, you will spend less time on data entry. Built-in email tracking; word processing with mail merge; label and envelope generators with postal bar codes; and alarms to remind you of key events make this an essential product for anyone who needs to save time and stay organized. A built-in TCP/IP server allows you to add users and share group data, while keeping personal information private. Designed for the Internet, Now Up-to-Date & Contact offers a unique web plug-in architecture that will have you soaring through cyberspace. Need a map or an e-mail address for someone? Click the blazingly fast search engine to find the contact and let the software do the rest! It is no wonder that Now Up-to-Date & Contact is the #1 best-selling Macintosh PIM on the planet.

Phone: 800-344-9160 ■ 612-317-0344 ■ Fax - 612-317-0345 ■ <http://www.poweronsoftware.com>

Copyright ©1999 by Power On Software, Inc. All rights reserved. Now Up-to-Date and Now Contact are registered trademarks of Power On Software, Inc. Macintosh is a registered trademark and Finder is a trademark of Apple Computer, Inc. Palm Computing is a registered trademark and Palm V is a trademark of Palm Computing, Inc., 3Com Corporation, or its subsidiaries. All other trademarks acknowledged.

Star Wars: Episode 1 Racer

THE GAME BEATS THE MOVIE

NOT OFTEN DOES SPIN-OFF MERCHANDISE outdo the product from which it's spun, but minor miracles do occur. Take LucasArts' new racing game, *Star Wars: Episode 1 Racer*. This arcade game, in which you jet around otherworldly racecourses at terrifying speeds, is entertaining enough that it might drive away memories of the disappointing movie that spawned it.

In *Racer*, you command a podracer—an airborne vehicle comprising a couple of jet engines and a sleigh that flies a few feet off the ground—and dash through a series of ever more complex courses at speeds that routinely exceed 400 mph. By default, you play Anakin Skywalker, the movie's pint-size Darth Vader-to-be, and pilot Anakin's blue-and-white podracer. You can also play other characters and pilot other podracers. When you place first in each of the 25 courses (scattered among 8 worlds), you unlock a new podracer with different strengths and weaknesses.



Downhill Racer This snowy track is just one of 25 courses found in *Star Wars: Episode 1 Racer*.

Racer offers three modes—Tournament Play, where you tackle the 25 courses in succession and compete for prize money that allows you to purchase performance upgrades for your podracer; Free Play, where you can whirl around any track you've unlocked in Tournament mode; and Multiplayer Mode, where you can race against as many as eight players on a LAN.

LucasArts has done an excellent job of simulating the outlandish speed of these vehicles—you really feel as if you're traveling at hundreds of miles an hour. The malevolence of the other racers also enhances the game. Unlike your opponents in traditional car-racing games, in *Racer* they would just as soon fly *through* you as around

you. Thankfully, your podracer can absorb—and dish out—this kind of damage a couple of times without crippling effects.

Some players may tire of young Anakin's alternate whining and showboating. When you lose a race, the kid lets out a mewling "Awww. . . ." And his triumphant "I won! I won!" at the end of a successful race is even more annoying. Additionally, navigating to the Settings dialog box from a race requires that you travel back through six screens, and returning to the race requires retracing the same six steps. Finally, the game doesn't natively support 3Dfx cards, though 3Dfx's latest beta drivers allow the game to run on Voodoo2 and Voodoo3 cards, with some graphics anomalies.

Macworld's Buying Advice Despite Anakin's poor-loser attitude and some interface glitches, *Racer* is a dizzying good time. Maybe next time around, LucasArts should forget the movie and just release the game.—CHRISTOPHER BREEN

RATING: ★★★½ **PROS:** Realistic portrayal of high-speed racing; great graphics. **CONS:** Anakin is annoying; interface needs work. **COMPANY:** LucasArts (888/532-4263, www.lucasarts.com). **LIST PRICE:** \$40.



Computer-eyed?

**Save Your Eyes With OTT-LITE TrueColor™ VisionSaver™...
A natural light source designed for computer environments.**

The culprit in "computer eyes" is usually harsh, distorted lighting. OTT-LITE VisionSaver is a breakthrough that utilizes a special blend of rare earth phosphors to create a color balanced natural-daylight environment indoors. See with startling clarity and comfort!

- VisionSaver Eliminates Eyestrain with Reduced Glare and Distortion
- See Details with Startling Clarity
- Match Colors Accurately – just like you're outdoors
- Work with Increased Precision
- Read Comfortably in a Soothing, Natural Light Environment

Call for a FREE Catalog

1-800-842-8848 Code #MCW0005

OTT-LITE Technology, 1214 W. Cass Street, Tampa, FL 33606 www.ott-lite.com



OTT-LITE
TRUECOLOR LIGHTING

Circle 42 on card or go to www.macworld.com/getinfo

There's digital. And then there is Digital. The standard in optics
meets on-the-edge technology Digital. The biggest name in cameras
on the smallest package Digital. Extreme Digital. Canon PowerShot Digital.
Visit our website to see just how far digital has come.

PowerShot

© 1999 Canon U.S.A., Inc. "are you digital yet?" and PowerShot are trademarks of Canon Inc.



are you digital yet?

Canon

www.powershot.com

Circle 23 on card or www.macworld.com/getinfo

DRIVER™

YOU ARE THE WHEELMAN™

YOU ARE THE DIFFERENCE BETWEEN THE
BIG HOUSE AND A BIG HOUSE IN MALIBU.

YOU ARE THE DIFFERENCE BETWEEN 500 G'S AND
10-15 IN MAXIMUM SECURITY.

YOU ARE THE FASTEST DRIVER IN THE ENTIRE
CRIMINAL COMMUNITY.



SAN FRANCISCO

Film your own classic 70's car chase
using incredible Director-Mode.



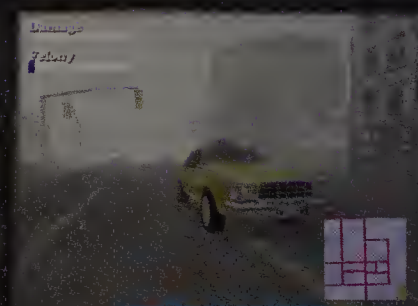
LOS ANGELES

Surveillance. Tailing. Deliveries.
Heists. And serious 70's muscle cars.



MIAMI

Getaway through real pedestrians,
traffic signals, traffic...and cops!



NEW YORK

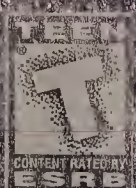
No tracks. Just 4 sprawling urban
downtowns from NY to San Fran.

THE BEST-SELLING GAME FOR THE PC & PLAYSTATION®

COMING SOON FOR THE MAC!

Driver™ © 1999 GT Interactive Software Corp. All Rights Reserved. Created by Reflections Interactive Limited, a GT Interactive Software Corp. studio. Published and distributed by MacSoft, a GT Interactive Software Company. Reflections and the Reflections logo are trademarks of Reflections Interactive Limited. All other trademarks are the property of their respective companies.

Circle 29 on card or go to www.macworld.com/getinfo



MacSoft®

A GT Interactive Software Company
www.wizardworks.com/macsoft/

The Game Room

Careful What You Wish For

WHY MAC VERSIONS OF HOT NEW GAMES ARE WORTH THE WAIT

by Christopher Breen

A real man—like me, for instance—knows when to admit he's wrong. I was mistaken, for example, when a few years ago I suggested to a friend—who had just joined a small Internet start-up called eBay—that online auctions had no future. Likewise, I may have been hasty when a couple of months later I turned down my friend's offer of a job at this same little auction company. "No," say I in my all-knowing way, "I'd prefer to stick with something *secure* like freelance writing!"

Now that I've stopped kicking myself, I've taken the time to readjust my thinking on another subject—one near and dear to the hearts of Mac gamers—simultaneous release. I freely admit that I was among those who championed the cause of bringing Mac games to store shelves the same day their PC counterparts arrived, but after chatting with a few of my pals in the gaming business—and watching in dumb disbelief as a potential major player in the Mac gaming market issued Mac gamers a flying triple kick to the snoot—I've changed my tune. I hope that by the end of this column you'll find the idea of simultaneous release as abhorrent as I do.

This Year's Model

To understand how a simultaneous release works, it might help to know how Mac game publishing functions today.

Let's start with the obvious: except for those games produced by the smaller Mac game publishers who build their business on the shareware model—Ambrosia and Freeverse, for example—or companies such as Pangea Software that for technological reasons make Mac-only titles, Mac-specific (or even Mac-first) game

titles have almost vanished from the market. The days when a game like *Myst* would appear first on the Mac are over. The Big Boys can make just too darned much money on the PC platform to have much incentive for writing Mac-specific games. Mac gamers therefore depend on publishers to port PC games to the Mac.

As you're undoubtedly aware, these ported games rarely come from the original publisher—Electronic Arts, GT Interactive, Interplay, or Eidos—but

its. Out of these profits the Mac publisher must pay the porting house—a company such as Westlake Interactive that turns PC code into something playable on the Mac—as well as pungle up the dough for duplication, packaging, advertising, and distribution. If the Mac publisher is smart, it also pays for professional beta testing by companies such as Absolute Quality or AlphaBetas to ensure that the game runs smoothly.

These deals benefit both parties. The original publisher takes practically no risk and earns some extra dough on a game it had no intention of porting in-house. And if the game sells well, the Mac publisher makes a fair chunk of change and can finance its next big Mac game.

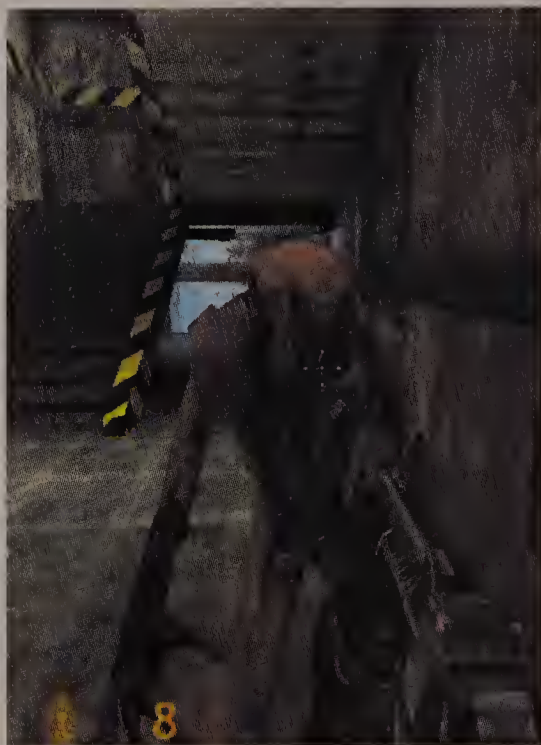
The downside for Mac gamers is the necessary gap between a game's first release on the PC and its availability in Mac-compatible form. After all, you need time to convert the code, test the game, press the discs, yadda, yadda, and especially yadda. Mac publishers and porting houses attempt to shorten this gap by obtaining

code while the game is still in development for the PC, but regardless of how quickly this code is delivered, a gap of several months remains between PC availability and Mac release. Neither gamers nor Mac publishers want to prolong this gap—gamers are impatient for the same cool games their PC buddies play, and Mac publishers want to take advantage of the buzz that the PC version generates.

continues



rather are distributed by third-party publishers such as MacSoft, Aspyr Media, and Graphic Simulations. These Mac publishers cut a deal with the publishers of the original game—providing them with some advance money and a percentage of sales at the back end—in exchange for the PC code. Additionally, they promise not to bother the original publisher with too many technical questions, and of course they reserve the right to distribute the game and take the lion's share of the prof-



Missing in Action Unless Sierra relents, the only place you'll see these once-slated-for-Mac games—*Half-Life* (left) and *Pharaoh*—will be on a friend's PC.

The Numbers Game

These third-party publishing deals work in large part because Mac games don't sell in numbers high enough to tempt the original publishers to produce Mac versions in-house. Though 30,000 units sold is a respectable number for a Mac game, it's chicken feed to these people. There just isn't enough profit in such numbers to justify assembling a team of Mac programmers and creating a Mac-savvy marketing department.

However, thanks to the sale of over 2 million iMacs, game publishers are taking a second look at producing their own Mac ports. Who wouldn't be mesmerized by an installed base of a couple million users with machines powerful enough to run most modern games? Selling a game to just 10 percent of these users equals over 200,000 units sold—a creditable number on any platform. Of course, Apple is encouraging these publishers for the reasons you'd expect—happier Mac gamers, a well-rounded platform that appeals to potential computer buyers, and the respect that the company earns by producing a viable gaming platform.

Gazing into the Crystal Ball

Let's suppose the big publishing houses decided to jump into the Mac market with both feet. What would happen? In all likelihood, this would drive Mac publishers such as MacSoft and Aspyr out of business. Likewise, porting houses such as Westlake Interactive would be raided

or run into the ground. Fine. After all, what do we care? We're getting our Mac games at the same time PC users are, and that's what's important—right?

Wrong, because gambling that these big publishing houses will *stay* in the Mac market is a sucker's bet. Allow me to illustrate my point with a fable.

Sierra's Sad Story

Once upon a time there was a company named Sierra Online. This company dipped its toe into and out of the Mac market every leap year or so. All too often, when Sierra deigned to dip its digit into our pool, the company produced distinctively dreadful ports of its PC games. To no one's surprise—except, apparently, Sierra's—Mac gamers stayed away in droves, and Sierra abandoned the Mac in a huff.

Shortly after the release of the iMac, Sierra returned to the Mac platform with a wonderful, critically acclaimed game called *Caesar III*. Regrettably, the game sold in disappointing numbers—around 12,000 units. With these numbers in mind, Sierra took a long second look at the upcoming Mac version of *Half-Life*—a terrific 3-D shooter that Logicware was porting—and although the port was on schedule and Logicware had met its assigned goals, Sierra pulled the plug. Shortly thereafter, Sierra released collections of traditional board, card, and gambling games that, on the opening splash screen, contained a large Internet button

and a box that promised free Internet play. Yet Internet play wasn't available in the Mac version, as an eensy-teeny, one-line notice indicated on the inside cover of the game box. Two months later Sierra announced the cancellation of yet another title slated for the Mac—*Pharaoh*, a *Caesar III*-like game.

And you want to trust a company like this to provide you with the next generation of Mac games? I think not.

The Moral

While this story lacks a happy ending (at least so far), just imagine how dismal it would be if a similar scenario played out at Activision, Eidos, Electronic Arts, GT Interactive, id, Interplay, and LucasArts. This could very well occur without the safety net of third-party publishing houses that assume the risk of producing Mac versions of the latest hot computer games. We're talking classic double whammy—no PC publishers willing to produce Mac games and no third-party Mac publishers to take up the slack.

Look, I'm as attracted to the idea of simultaneous release as the next rabid Mac gamer is, but I believe we have to be careful what we wish for. Otherwise our dream of parity with PC players could rapidly turn into a nightmare. **m**

Visit Contributing Editor CHRISTOPHER BREEN in Breen's Bungalow, a video tutorial that appears on the CD-ROM bundled with newsstand copies of *Macworld*.



Inspiration for International Commerce Tower strikes while deciding between Cocoa-Puffs® and Count Chocula®



Buy disposable camera in Aisle 2
to photograph creation

Go to studio

Log on to Office.com

Study latest zoning laws

Network with builders to estimate cost
of flying buttresses

Conduct trademark/patent search
on design

Order design software upgrade

Go back to supermarket for Cocoa-Puffs

Today's businesspeople are always thinking. Always looking for better answers and solutions. Now they can find them at Office.com—the top-rated online business center with expert, in-depth information on nearly 150 industries and professions, unparalleled tools and access to the people and services businesspeople need the most. **The new way to work.™**

office.com®
a service from winstar

Cocoa-Puffs and Count Chocula are registered trademarks of General Mills.

©2000 Office.com Inc. All rights reserved. Rated #1 online business center overall and an value to end users by Cohners In-Stat Group, December 1999.

Circle 149 on card or go to www.macworld.com/getinfo



by Frith Breitzer

WHEN IT COMES TO APPLE'S NEWEST MOBILE MACS,

Ever since Steve Jobs returned to Apple, we've come to expect drama when the company introduces new products, whether they're colorful and cuddly iMacs or shocking-blue Power Macs. But sometimes the most-dramatic changes don't have to do with a flashy appearance—they're all about what's inside.

That's certainly the case with the latest updates to Apple's line of portable Macs, the PowerBook and the iBook, announced at Macworld Expo Japan in February. The PowerBook, whose name has been officially truncated from the previous "Macintosh PowerBook G3," hasn't been redesigned into a translucent, fruit-flavored gadget—it's a dead ringer for last year's



INNER BEAUTY

LOOKS CAN BE DECEIVING

model, right down to the bronze-colored keyboard. But in truth, this PowerBook is dramatically different, with a blistering G3 processor, FireWire connectivity, AirPort support, and much more.

In contrast, the new iBook Special Edition adds a third color to Apple's line of consumer portables, but beneath the skin it's largely the same iBook Apple announced last fall. (See the sidebar "iBook Gets Brawny" for details about all the new iBooks.)

That's the funny thing about appearances—they can be deceiving. When it comes to actually *using* your Mac, the real substance is on the inside, and that's where Apple's new PowerBook really shines.

Photography by Kevin Candland

iBook Gets Brawny

THE iBOOK, RELEASED LAST SEPTEMBER, offered a new take on a low-cost portable—one with style and good performance. However, in order to achieve the \$1,599 price, Apple skimped on built-in storage and RAM. It was the latter item that caused the most trouble, because with only 32MB of RAM, the iBook not only had barely enough memory to run one application, but also exhibited stability problems (these vanished when the base configuration was expanded to 64MB; see *Reviews*, January 2000).

More Bang With the release of the 2000 iBook, which started shipping in February, Apple boosted the on-board RAM to where it should've been in the first place: 64MB, bringing the iBook in line with the rest of the Mac product lineup (for details, see the table "Bigger, Better, Grayer"). It also doubled the iBook's anemic internal hard drive from 3GB to a much more spacious 6GB of storage, a necessity these days if you carry around lots of MP3 files or need many applications loaded on your computer. The processor speed stays the same at 300MHz, but as



a result of the RAM boost, the iBook should seem much faster to users who have been struggling with the 32MB version of the portable. And for those who find even 64MB of RAM too meager, the 2000 iBook can handle up to 320MB of RAM, double the previous maximum of 160MB.

All other specifications stay the same:

built-in 10/100BaseT Ethernet networking, a 56-Kbps modem, a 2× AGP ATI Rage Mobility graphics controller with 4MB of SDRAM, a 24× CD-ROM drive, a USB port, and a 12.1-inch active-matrix display capable of a maximum resolution of 800 by 600 pixels. Since the price remains \$1,599, the blueberry and tangerine iBooks are now an even better value than before.

The Graphite Blues Too bad the same can't be said for the iBook Special Edition (SE), which comes in a slick new "graphite" (gray) and "ice" (white) case.

Except for the gray rubber bumpers, which are semitranslucent, unlike their blue and orange counterparts, the only difference

between an ordinary iBook and a Special Edition is an additional 66MHz of processor speed—and an additional \$200 tacked on to the price. The 366MHz iBook SE retails for \$1,799.

Though Apple claims that the jump in speed and sexy new color are enough to justify the extra expense, our initial reaction is less enthusiastic. Consider that the jump from the \$1,299 iMac DV to the \$1,499 iMac DV Special Edition includes more RAM and a larger hard drive (and both models include Apple's great new iMovie software).

On the other hand, users who were reluctant to be seen in public carrying a tangerine or blueberry iBook by its purselike handle may find the slightly faster, more businesslike iBook Special Edition worth the price.—ANDREW GORE

Bigger, Better, Grayer

Product	List Price	Processor	RAM/Maximum	Hard Drive	Optical Drive	Color
iBook (1999)	\$1,599 *	300MHz G3	32MB/160MB	3GB	CD-ROM	tangerine, blueberry
iBook (2000)	\$1,599	300MHz G3	64MB/320MB	6GB	CD-ROM	tangerine, blueberry
iBook Special Edition	\$1,799	366MHz G3	64MB/320MB	6GB	CD-ROM	graphite

* No longer sold.

Familiar Faces

The first thing you'll notice about the new PowerBooks is that their prices haven't changed—still \$2,499 to \$3,997 (see the table "The Name Game" for details).

The familiar expansion bays are still there, and they work with batteries and expansion drives from last year's PowerBook. The PC Card slot hasn't disappeared either; it still supports the same cards as the old machine, including Type I and Type II PC Cards and Zoomed Video PC Cards.

Lift the new PowerBook, and you'll find it a little lighter than the previous version. It weighs in at 6.1 pounds—5.7 pounds with only the battery and a weight-saving module (essentially a hollow battery case) in the second slot—compared with the 6.2 pounds of the older high-end system.

Open the PowerBook, and you'll see the same bronze key-

board and bright 14.1-inch active-matrix LCD panel. Even battery life remains the same: Apple estimates that you'll get five hours of life out of each charge (or double that with a second battery installed).

Close Inspection Take a closer look and you'll notice some subtle differences. The blinking sleep-indicator light has been replaced by a gently pulsing one. And the old, solid-black accessories have been replaced by snazzier ones—the PowerBook comes with a round, silver power-cord holder and an AC adapter similar to that of the iBook. Even the VGA adapter has an "ice" color scheme. Under the display, the moniker reads simply "PowerBook," reflecting Apple's current minimalist approach to naming its systems.

It's when you turn the new PowerBook around and open the rear port door, however, that you begin to realize that the real story behind the latest PowerBook is on the inside.



Rear Window

Fire When Ready

When it comes to connecting other devices to this PowerBook, you'll be glad to find that most of the ports you're used to are still there (see the photo "Rear Window"). Instead of the SCSI port, however, there are two FireWire ports.

The new FireWire ports operate on a single bus and are powered. That means the peripherals you attach to them can draw their power from the PowerBook—though that will drain your battery faster—without needing a separate power supply (see "Where's the Fire?" November 1999). The FireWire ports can support a combined total of 63 peripherals, including additional hard drives and digital video cameras (see the sidebar "Mobile Moviemaking?").

Also gone is the SCSI Disk Mode option, which let you hook up the PowerBook to your desktop Mac via SCSI so that one machine's hard drive appeared on the other's desktop. It's been replaced by FireWire Target Disk mode. Even better, the new PowerBook can boot up from an external FireWire hard drive.

The 2000 PowerBook also offers the same two independently powered USB ports included in the previous line, allowing you to connect a total of 127 hot-swappable USB devices.

Speed Demon

Moving deeper inside, you'll discover that the new PowerBooks are available in 400MHz and 500MHz G3 PowerPC configurations.

If you're hoping for a G4 notebook, though, you still have to wait: the current G4's high power consumption and resulting heat continue to preclude it from being used in portable Macs. (See *News*, elsewhere in this issue, for the latest on G4 desktop systems.)

On the other hand, you can expect to experience CPU performance levels nearing those of the latest G4 computers on applications that don't take advantage of the G4's Velocity Engine (for details about this technology, see "Fantastic Four," November 1999). The G3 PowerBook steps up its system bus speed to 100MHz (from 66MHz), bringing it up to par with the Power Mac G4s. In addition, all new PowerBooks standardize on a 1MB Level 2 backside cache, resulting in increased speed and stability.

Great Graphics

Graphics professionals and gamers should be pleased with the PowerBook's graphics performance. It ships with the speedy ATI Rage Mobility 128 graphics chip set with AGP 2X support for 2-D and 3-D graphics, and 8MB of SDRAM video memory. Though not as powerful as the graphics card on the G4 desktop, the card should offer impressive portable graphics performance—meaning higher frame rates in your favorite scoot-and-shoot games and increased responsiveness in graphics-intensive applications. You'll also be able to see those gory games (or your presentations and designs for work) in living color. The monitor supports millions of colors at a resolution of 1,024 by 768 pixels and scales down to 800 by 600 or 640 by 480.

I Want My DVD To showcase that graphics power, all 2000 PowerBook models ship with a 6X DVD-ROM drive (only high-end

The Name Game

Product	List Price	Processor	RAM/Maximum	Hard Drive	Optical Drive	Spare Battery and Adapter
PowerBook	\$2,499	400MHz G3	64MB/512MB	6GB	DVD-ROM	no
PowerBook	\$3,499	500MHz G3	128MB/512MB	12GB	DVD-ROM	no
PowerBook	\$3,997	500MHz G3	128MB/512MB	18GB	DVD-ROM	yes

models included DVD in 1999). The new DVD drive can read DVD-ROM, DVD-Video (movies), and—a first for PowerBooks—2.6GB DVD-RAM media. The drive can also read CD-ROMs at up to 24×.

Getting Air

It's no secret that Apple has been striving to include AirPort compatibility in all its models so that all Mac users can enjoy this new wireless way to surf the Internet and network multiple Macs. With the new PowerBooks, the company can cross that item off its to-do list. Lift up the keyboard and you'll discover a slot for an optional \$99 AirPort networking card, which enables the PowerBook's built-in AirPort antenna. In addition, you'll find access to the hard drive and RAM expansion bay (see the photo "Inside Scoop").

The 2000 PowerBook also includes the latest AirPort 1.1 software, which allows you to use any AirPort-equipped Mac as a base station. You'll avoid the \$299 cost of a hardware base station, but you'll need to keep your PowerBook hardwired to your network, and this will affect its portability.

AirPort 1.1 also improves compatibility for users who had trouble connecting their AirPorts to their Internet service providers (although connecting to America Online via AirPort was still not possible at press time). An active roaming feature allows the AirPort connection to seamlessly transfer to the closest AirPort Base Station if you're in an environment that has more than one, such as an office or school.

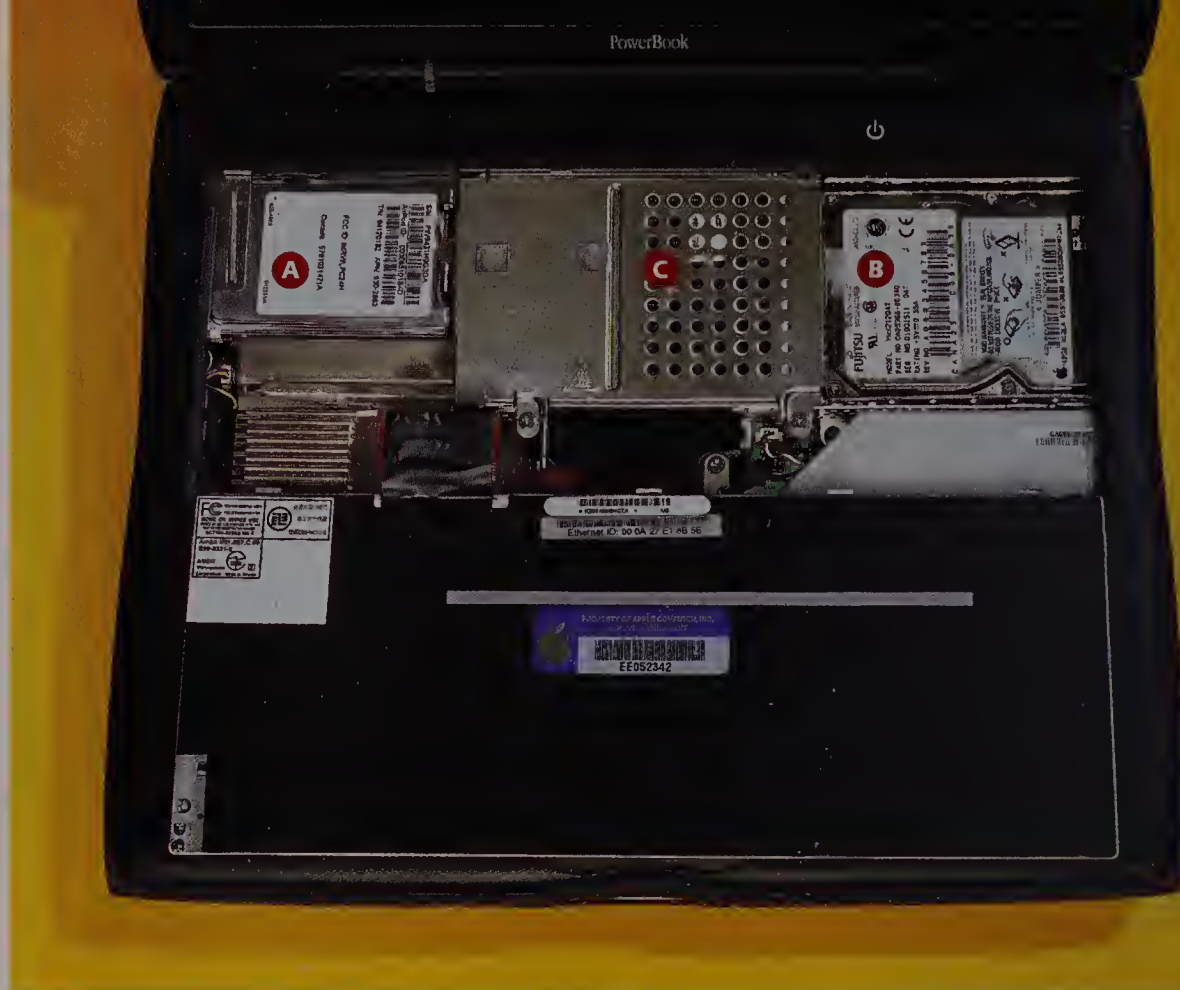
Mobile Moviemaking?

THE 2000 POWERBOOK HAS ALL THE BELLS AND WHISTLES NECESSARY TO BE A no-compromise portable digital video-editing system. Unfortunately, despite its brilliant design, extensive feature set, and incredible value, the new PowerBook gets you only halfway to mobile moviemaking.

Video Void Unlike the iMac DV, which includes Apple's iMovie editing software, the PowerBook does not include any digital-video software. Should you want to turn your new PowerBook into a video-editing studio, you'll need to pay extra for the necessary software. And the amount you'll fork over isn't necessarily insignificant: Apple does not offer its easy-to-use iMovie software independent of the iMac DV, which means you're forced to choose Apple's \$999 Final Cut Pro, another high-end program such as the \$549 Adobe Premiere (800/833-6687, www.adobe.com), or an entry-level option such as Digital Origin's \$149 EditDV Unplugged (800/572-3487, www.digitalorigin.com).

Desktop video is one of Apple's main focuses for the year 2000. However, by not including at least an entry-level video-editing application with the new PowerBook, the company has missed an ideal opportunity to promote DV to an important new audience: the mobile professional.

Just because people buy a "pro" Mac—such as the 2000 PowerBook—doesn't mean they're high-end users across the board. In combination with iMovie, the new PowerBook could be a great desktop video ambassador. And professional digital video users would still have the option of upgrading to Final Cut Pro to meet their more demanding requirements.—ANDREW GORE



Inside Scoop The PowerBook's flip-up keyboard provides access to (A) the AirPort card slot, (B) the hard drive, and (C) the RAM slot.

The Last Word

Regardless of where you choose to use your new PowerBook, you'll have three configurations to consider.

For \$3,499, you'll get a 500MHz G3 processor, 128MB of RAM, a 12GB hard drive, and a DVD-ROM drive. The \$3,997 system pumps up the hard drive to 18GB and includes a second battery (normally \$129) and an extra AC adapter (normally \$69). You can also specify your own built-to-order configurations with up to 18GB of hard-drive space and 512MB of RAM by visiting the Apple Store (<http://store.apple.com>).

But the low-end configuration is the most impressive. It offers a 400MHz processor, 64MB of SDRAM, a 6GB hard drive, and a DVD-ROM drive for \$2,499. If that's still too steep, you might also consider a revamped iBook, which now features more memory and a bigger hard drive than its predecessor, as well as a new color (see the sidebar "iBook Gets Brawny").

With the introduction of the new PowerBook, Apple now offers a completely integrated product line. All systems feature AirPort compatibility, and most—with the exception of the iBook and low-end iMac—include FireWire ports and DVD drives to take advantage of desktop video capabilities. The best news about the 2000 PowerBook is that it takes what was superb about the PowerBook and makes it even better. **m**

Assistant Editor FRITH BREITZER covers displays, imaging hardware, and anything big that Apple announces at Macworld Expo.

Think Faster.

NEW!



FriendlyNET™ GX4 Series Gigabit Ethernet
over copper switch



Macworld
★★★★

"(The AsantéFast GigaNIC) is fast and well designed, and it includes features that may be useful in a multimedia environment."

— Macworld Magazine



FriendlyNET™ 7000 Series Gigabit Ethernet
over fiber switch

ASANTÉ
MAKING NETWORKING SIMPLE
www.asante.com



Simply the most affordable, powerful Gigabit Ethernet solutions ever.

Now you have a choice for high performance networking

Move at a faster pace with Asanté Gigabit Ethernet solutions for your business. Start with our award-winning GigaNIC™ PCI adapters to seamlessly integrate your workstations and servers into departmental or corporate backbones. Upgrade your workgroup with our new FriendlyNET™ GX4 Series switch — the most affordable Gigabit Ethernet over copper solution. Or, extend your network to greater distances with the FriendlyNET™ 7000 series switch — the modular Gigabit Ethernet over fiber solution.

Connecting Workgroups Faster

Introducing the most cost-effective Gigabit Ethernet solution: our new GigaNIC 1000T adapters and GX4 switches. Now move files 10x faster when you upgrade from Fast Ethernet to Gigabit Ethernet. Each Gigabit port adapts to the wiring you already installed (Cat 5 UTP) — even if you've inadvertently miss-wired your cables. AsantéQ™ link quality monitor continuously adjusts for dynamic network cable conditions — all without complex network management software or diagnostic equipment.

Building Bigger Networks

Our FriendlyNET 7000 Series switches and GigaNIC 1064SX adapters combine to deliver wire-speed, switched Ethernet throughout your network — over distances up to 550 meters (1,804 feet). This complete Gigabit Ethernet over fiber solution allows you to securely transmit and receive huge files while its full compatibility with legacy Gigabit Ethernet fiber standards protects your investment.

**Visit our website to take advantage of our new low prices on the only complete
Gigabit Ethernet solutions for Mac OS, Windows and Linux. Only from Asanté.**



INSIDE INFORM

EXPERT TIPS TO HELP YOU USE YOUR

When you're more often on the road than in the office, chances are you depend on your PowerBook—if not for your life, then at least for your money. But Apple's laptops have their idiosyncrasies, and travel brings its own challenges. Most of us have been caught at least once without a way to print, connect to a monitor, or jack into a network. In these situations—from the embarrassing to the deal breaking—even seasoned users can use a little expert help.

That's where we come in. Whether your portable pal has a fresh face (see the feature "Inner Beauty," in this issue) or is somewhat long in the tooth, our insider tips will keep it running at its best and save you from "gotchas" that can wreak havoc on your workday.

by Jason D. O'Grady



ATION

POWERBOOK LIKE A PRO

Security Blanket

You love your PowerBook because you can sling it around without breaking a sweat. Thieves love that, too. Beware a common airport scam that involves a decoy stalling as he or she goes through the security check's metal detector while an accomplice grabs your computer as it comes through the baggage scanner.

PowerBook ownership also poses another kind of security threat. Whether you fear theft or simply share your laptop with coworkers, you should keep your data secure. The simplest way to protect your information from prying eyes is built right into the Mac OS. The Password Security control panel activates a password screen any time your machine

wakes from sleep mode or restarts. Password security is relatively easy to foil, but it can keep casual snoops at bay.

In OS 9, you can restrict access to certain applications and folders via the Multiple Users control panel. Multiple Users lets you specify how much access each individual has and to which files. It's also useful for shared PowerBooks because it saves each user's systemwide preferences along with the log-in information.

But say you're out hawking the idea of the century. If your data gets into the wrong hands, your dreams of a multi-billion-dollar buyout go down the drain. You need serious security, such as Power On Software's \$80 Disk Lock (800/344-9160, www.poweronsoftware.com). It encrypts files in two ways (including DES, the U.S. government standard) and protects them against deletion.

Another security program, ASD Software's \$139 FileGuard (909/624-2594, www.asdsoft.com), boasts four ways to encrypt data, including Triple DES. The cool part is that you can send encrypted files electronically to any Macintosh user, regardless of whether they use FileGuard.

Cables and Connectivity

Even road warriors can't live by laptop alone. Sooner or later, you'll want to hook up to speakers, connect to a network, or otherwise reach beyond your PowerBook.

Now Hear This You can attach speakers via the stereo audio-out port located next to the power adapter plug on the PowerBook's back plane. A standard 1/8-inch stereo mini-plug, like the one on a Walkman-like portable stereo, handles sound out. If you also have a standard dual RCA cable (available in electronics stores and Mac catalogs for about \$2), you can send audio out to most consumer electronics devices.

Capture Sound A PowerBook isn't exactly a recording studio, but when you need to capture audio with it, you can connect a microphone to the audio-in port. One caution: that port requires a powered microphone—and most mikes are not powered. The \$20 NE Mic Audio Adapter from Griffin Technology (615/255-0990, www.griffintechology.com) comes to the rescue.

Attach SCSI or FireWire Devices When you want to attach an external device such as a hard drive or CD drive, pick high-speed communications cables based on the PowerBook model you own. If your model has SCSI ports, pack an HDI-30-to-25-pin SCSI adapter, such as APS Technologies' \$30 SCSI Doc (816/483-2749, www.apstech.com). You'll need this handy adapter to make the square SCSI port on your PowerBook work with standard SCSI cables.

You may also want to try out SCSI Disk Mode, which lets you mount your PowerBook as a hard drive on another Mac-

FireWire Tips, Gadgets

FIREWIRE IS A SUPERFAST WAY TO TRANSFER DATA TO AND from your PowerBook. A new PowerBook model, code-named Pismo, was recently released with built-in support for FireWire. (See the feature "Inner Beauty," in this issue.) And thanks to FireWire PC Cards that fit in the CardBus slot, any G3 PowerBook running at 300MHz or faster can join the party.

FireWire PC Cards are available from many vendors, including RATOOC Systems (408/955-9229, www.rexpccard.co.jp), Newer Technology (316/943-0222, www.newertech.com), VST Technologies (978/263-9700, www.vsttech.com), and Orange Micro (714/779-2772, www.orangemicro.com). For more information on the first two cards, see *Reviews*, February 2000.

Because these cards work only in a CardBus slot, any PowerBook older than the Wall Street model can't use them without modification. If you've got an older model but are still frantic for FireWire, check out MCE's CardBus upgrade (www.powerbook1.com/cardbus.html).

Models with built-in FireWire have at least one crucial advantage: they can power FireWire devices through the cable. Try the same thing with a FireWire PC Card and it will overheat. (However, the RATOOC card's power jack is on the dongle that

connects FireWire devices to the card, thus avoiding the problem.)

Because digital video is such a data hog, video editors on the go are sure to be among the loudest voices welcoming FireWire. FireWire cables can have four or six pins; if you'll be working in an unfamiliar video studio, bring both kinds.

Many of the new digital video cameras boast FireWire input and output and are small enough to take on the road. See "Camcorder Casting Call," April 2000, for a look at five cameras that start at \$1,000. *Macworld's* Editors' Choice, the Sony DCR-TRV10, costs \$1,800 (800/222-7669, www.sel.sony.com).

Mobile video editors won't be the only people enjoying the size and speed of portable FireWire hard drives. VST Technologies' "thin" drives hold from 4GB (\$360) to 25GB (\$1,100) and fit in your hand. LaCie (503/844-4500, www.lacie.com) makes the PocketDrive, which holds from 6GB (\$399) to 18GB (\$749). It also includes USB connections for greater flexibility.

Sometimes the simplest things can give you a big performance boost. Make sure you've installed the most-current Apple and device drivers. For Apple's latest, go to <http://asu.info.apple.com>. For device drivers, go to the appropriate vendor's site.—TERRI STONE

intosh. This is especially useful when you need to copy a lot of files between a PowerBook and a desktop machine. To enable SCSI Disk Mode, start with the PowerBook Setup, PowerBook SCSI Disk Mode, or PowerBook SCSI Setup control panel (depending on which system you have).

Open the control panel, select the SCSI ID you want for the PowerBook (1 through 6), then shut down both machines and connect them via a SCSI cable and SCSI Doc. Your PowerBook hard drive will mount on the target machine like any other drive. For information on attaching FireWire devices (not possible with all PowerBooks), see the sidebar, "FireWire Tips, Gadgets."

Connect to Ethernet When your work environment may involve Ethernet, carry both straight and crossover Ethernet cables with you. The first allows you to jack into almost any corporate network; the second lets you connect directly to any other Ethernet-equipped Mac, no hub necessary. Both cost less than \$10 from a variety of sources. If your PowerBook doesn't support Ethernet (that is, if you have a pre-3400 model) and you need that kind of connectivity, it may be time to buy a newer model.

Connect via Serial If your PowerBook has a serial port (Wall Street or any prior model), don't forget a Mini Din8 serial cable (aka an ImageWriter cable). This cable can save your bacon when it comes to those smaller file transfers. Just connect two serial-equipped Macs with the Din8 cable, and then create a two-computer micro LAN by enabling File Sharing and selecting the target Mac in the Chooser. But keep in mind that the small data pipe will have you tearing out your hair if you try this trick with larger files.

Make E-mail Easy Do you live for e-mail? Then save yourself the struggle of trying to stretch the 6-foot cable that came with your modem past the corner of your hotel bed. Instead, plunk down a mere \$2 to \$5 for 10- and 15-foot standard telephone cables (known as RJ-11 cables, these are available from the usual Mac sources). Pick up a \$1 RJ-11 coupler, too—very handy when you have to connect two RJ-11 cables to reach that faraway plug.

Accessible Adapters

Adapters can bail PowerBook users out of many a tight situation, such as connecting to an unfamiliar video projector

XY Stitch Scanning
Technology

Powerful **SmartSet**
Application Feature

Affordable
Scitex Quality

EverSmart Jazz
scanners incorporate unique,
INNOVATIVE technologies
that assure the highest
IMAGE QUALITY.

A host of built-in automated
tools make it **EASY** to achieve
print-ready quality from
day one.

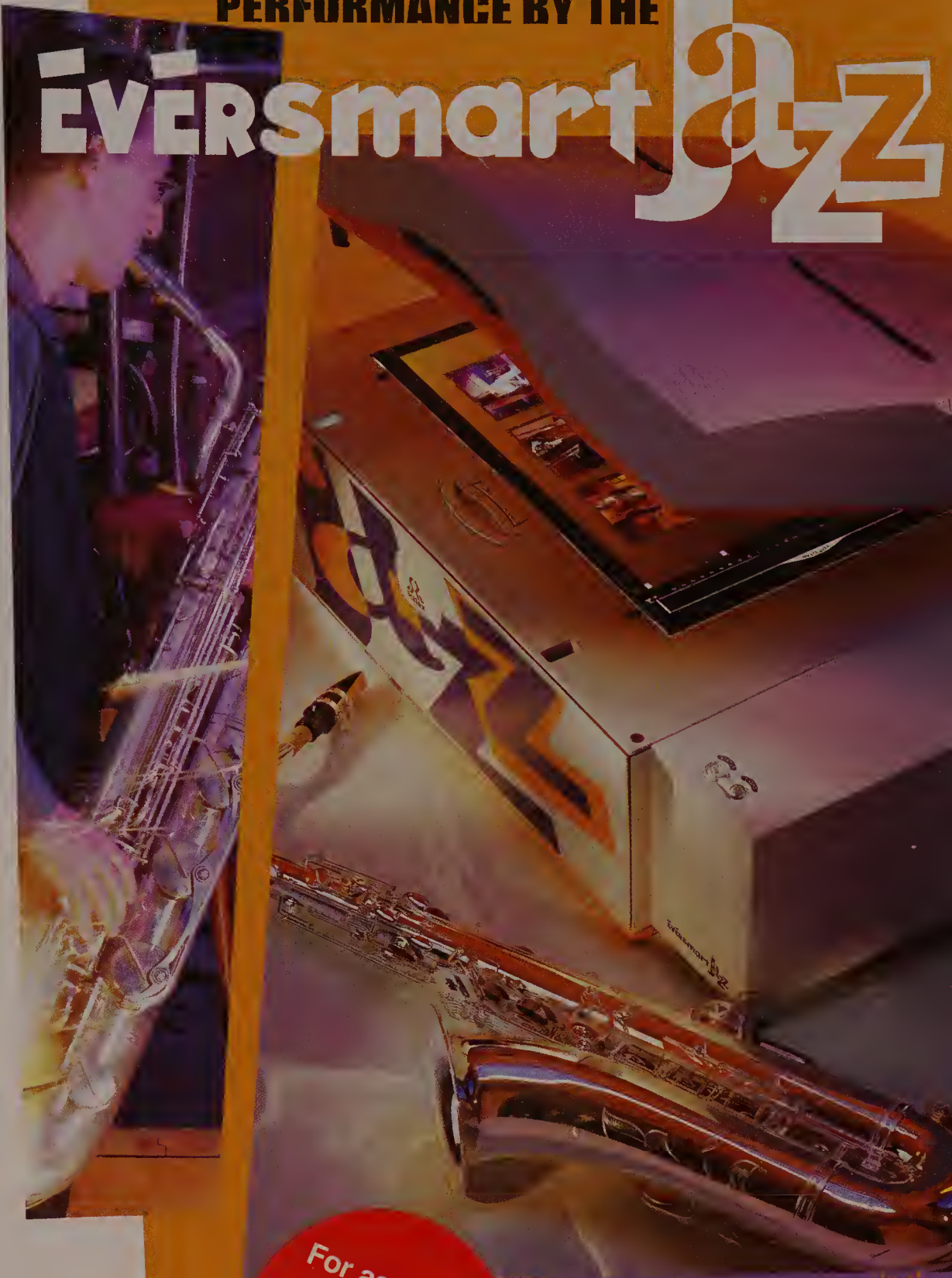
Moreover, now that
professional in-house
scanning is affordable, you
no longer have to send jobs
out. **STAY TUNED...**

For a demonstration
call 1-800-685-9462
Email: Jazz@Scitex.com
or visit www.scitex.com
Resellers invited - 781-280-7642

Copyright 1999 Scitex Corporation Ltd. All rights reserved. Scitex, the Scitex logo, EverSmart and EverSmart Jazz are trademarks of Scitex Corporation Ltd. or its wholly owned subsidiaries and may be registered in certain jurisdictions. Specifications are subject to change without notice. * Based on 60 Months 10% Fair Market Lease, subject to approval.

**SCITEX PRESENTS:
AMAZING SCANNING
PERFORMANCE BY THE**

EVERsmart Jazz



For as little as
\$295*
a month



Circle 122 on card or go to www.macworld.com/getinfo



or printing a revised proposal on the spot at a client's office.

Professional Presentations Imagine you've flown across the country to pitch your brilliant business plan. You set up your PowerBook—and realize you've forgotten a crucial adapter. Don't make the management team huddle around your unimpressive small screen—always come prepared with the right adapter for the job. Here's what you need.

Monitors and video projectors usually connect via a VGA-style video cable. If you have a pre-3400 PowerBook, carry a Macintosh-to-VGA video adapter. If your model is a 3400 or newer, don't forget to pack the VGA-to-Mac adapter that ships with the laptop—it connects your PowerBook to older Apple monitors. Owners of the G3 series (Lombard and Wall Street) can use the included adapter for S-Video to composite video.

Cross-Platform Printing If you often print in cross-platform environments, Infowave's \$100 PowerPrint USB (800/463-6928, www.infowave.com) may answer your prayers. Combining software and a USB-to-parallel cable, this package lets you print to over 1,600 PC printers from a PowerBook.

"Incompatible" Bronze Mac Owning the newer PowerBook models (starting with the 1999 Bronze G3) presents special challenges. They were the first to ship without serial and Apple Desktop Bus (ADB) ports. Apple replaced both aging technologies with Universal Serial Bus (USB) ports, alienating you from a world of perfectly functional but no longer compatible serial and ADB devices.

Two indispensable tools help owners of bronze G3s stay connected. The first is Keyspan's \$79 USB Twin Serial Adapter (510/222-0131, www.keyspan.com). It plugs into one of your USB ports and gives you two serial ports—an absolute necessity for connecting to many PDAs, graphic tablets, modems, and printers.

Griffin's \$39 iMate is another money saver if you've already invested in a slew of ADB devices. Plug this compact, Bondi-blue adapter into your PowerBook and you can connect to ADB keyboards, mice, trackballs, touchpads, and hardware dongles.

Networking sans Wires

Wireless networking means you can forget about fumbling with Ethernet or serial cables—go wireless instead.

Apple's wireless wonder, AirPort (which consists of the \$99

AirPort PC card and the \$299 AirPort Base Station), is built into only some versions of the iMac and iBook, the PowerMac G4, and the newest PowerBook. But this doesn't completely deal users of older PowerBooks out of the wireless game.

If you have a Wall Street or Lombard PowerBook, you can add a Lucent WaveLAN Silver PC Card (www.wavelan.com) or Cabletron Wireless High-Rate PC Card (www.cabletron.com) for as little as \$166. Both of these identical cards are compatible with Apple's AirPort Base Station.

AirPort aside, another wireless option is Metricom's Ricochet SX (408/399-8200, www.metricom.com), which delivers a constant Internet connection for a flat monthly fee. Ricochet gives you a solid 28.8-to-33.6-Kbps wireless connection via a small serial modem you attach to the lid of your PowerBook. Although Metricom doesn't officially support mobile connections, you can easily use the service while traveling at under 35 mph. Service is currently limited to a few urban areas, but a 128-Kbps version of the Ricochet service is due out in 12 major markets this summer.

Backup Blues

We all know that backing up is a good idea, so why do we do it so infrequently? Modern PowerBooks have expansion bays that accommodate Zip and expansion-bay hard drives, which could make on-the-road backups more palatable. The Zip drive will set you back about \$230, and the expansion-bay hard drives start at \$390 for the 6GB configuration. Both are available from VST Technologies (978/263-9700, www.vsttech.com). For backups at the office, you can attach any SCSI (or FireWire, if you use the newest PowerBook) hard drive.

The Last Word

PowerBooks let us squeeze more work out of situations in which we used to jot notes on random scraps of paper or read in-flight magazines. That doesn't mean they're free of quirks and complications. Keep our advice in mind, and your PowerBook will bring you satisfaction, not aggravation. **m**

JASON D. O'GRADY (jason@go2mac.com) is editor in chief of Go2Mac.com and a member of the Macworld Expo Conference Faculty.

FROM THE CREATORS OF DOOM

FASTER, SMARTER
AND MORE INTENSE
BATTLES THAN
ANY GAME EVER.
PERIOD.



QUAKE III ARENA

"GAME OF THE YEAR" - PC ACCELERATOR

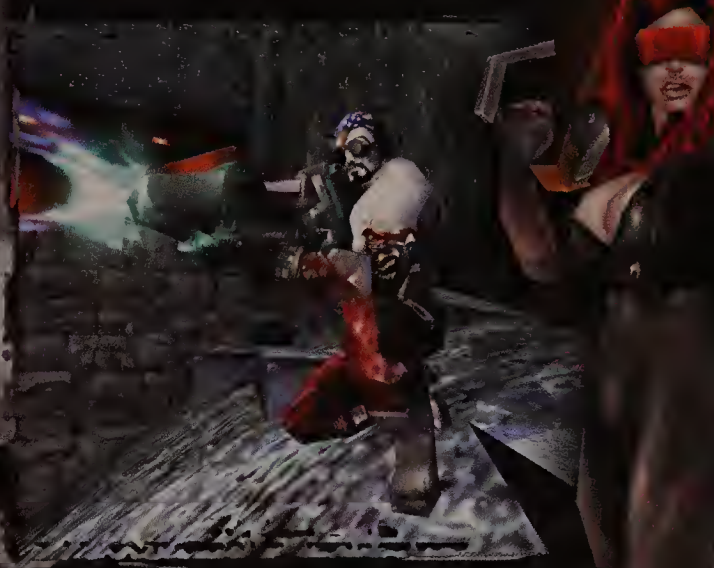
QUAKE III ARENA COMBINES ALL THE EXCITEMENT AND CARPAGE YOU EXPECT FROM ID SOFTWARE WITH GROUND BREAKING ARTIFICIAL INTELLIGENCE AND THE MOST POWERFUL 3D ENGINE EVER CONCEIVED FOR A GAME. WHETHER YOU WANT TO PLAY A CLASSIC FRAGMATCH IN THE SINGLE PLAYER MODE OR TRY YOUR LUCK AGAINST THE ONLINE PROS, QUAKE III ARENA DELIVERS THE BEST GAME PLAY YET BACKED UP WITH STUNNING GRAPHICS AND 30 CHALLENGING MAPS. IT'S GOT SOME AMAZING NEW TRICKS TO SHOW OFF. THE ONLY QUESTION IS: DO YOU?



"ALL HAIL THE KING OF MULTIPLAYER 3D ACTION"
- COMPUTER GAMES

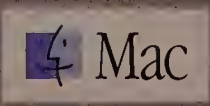


"...QUAKE III WILL REVOLUTIONIZE THE
INDUSTRY" - PC MAGAZINE



"Will it be worth it? You bet
YOUR @#%!" - COMPUTER GAMING WORLD

Quake III Arena™ © 1999 Id Software, Inc. All Rights Reserved. Quake III Arena™, QIII™, and the id Software™ name are trademarks of Id Software, Inc. in all countries in which this game is distributed. The id logo, Q®, QIII®, and Quake® are registered trademarks of Id Software, Inc. in the United States. Macintosh is a registered trademark of Apple Computer, Inc. All other trademarks and trade names are properties of their respective owners.



www.idsoftware.com

www.activision.com

Circle 24 on card or go to www.macworld.com/getinfo

The best thing about the Web is that it contains just about anything you'd ever want to find. The worst thing about the Web is that sometimes it's almost impossible to find what you want. The bigger the Internet gets, the more difficult it is to focus in on what you're looking for among its 800 million Web pages—and the more important it is that you learn how to search the Web effectively.

Notice that we said *effectively*. It's easy to search the Web these days, but in most cases, you can't easily find what you want—or you *do* find what you want, but it's mixed in with irrelevant sites. Cast your line into the Web ocean with some search engines, and you're likely to find 43,965 sites wriggling on your hook.

There's no need to slog through tons of results, hoping that you stumble across what you're looking for. You can be an expert Web searcher, reaching your destination with a minimum of fuss (as well as fewer visits to out-of-the-way, irrelevant sites). It's as easy as choosing the right search sites—we'll show you how—and following our advice to expertly home in on what you seek. Once you've learned the skills, you'll view the Web as the world's biggest library—not as the world's biggest haystack with a valuable needle lodged deep inside.

by Tom Negrino



The Macworld

WEB SEARCHER'S COMPANION

What You Seek Is What You'll Find with Our
Expert Guide to Online Searching



Know Your Tools

When you start searching, knowing a bit about the tools you're using helps. The most basic distinction between Internet search sites is that some are *search engines* and others are *directories*.

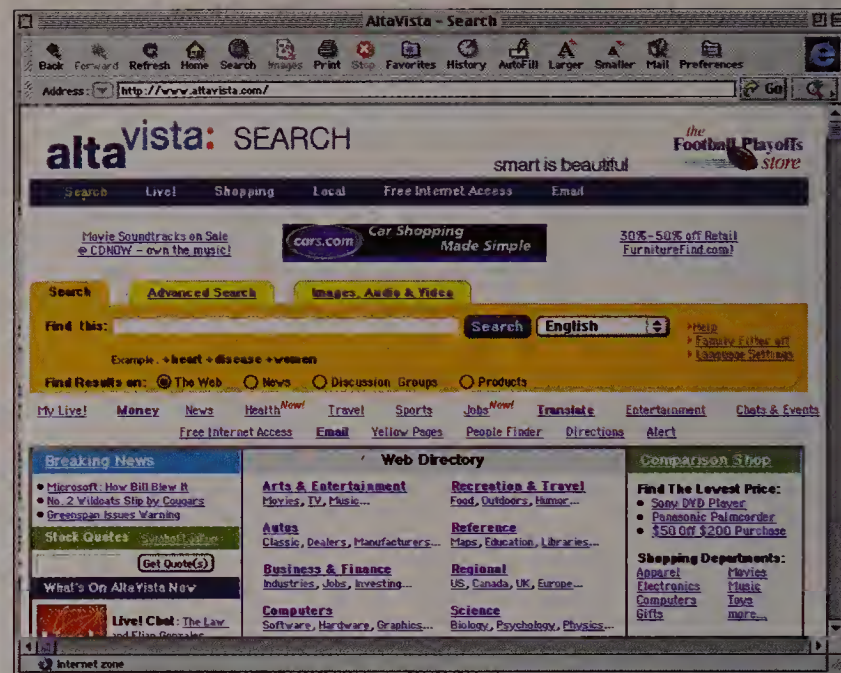
Search Engines A search engine builds an index by using pieces of software called *spiders*, which crawl the Web, indexing pages as they encounter them. Spiders return to a site periodically to check for changes, and the changes eventually get posted to the search engine's index.

Search engines rely on keyword searching—you type a word or a string of words, and the site searches its index for those specific words. Web-site designers can affect how highly their site is ranked by search engines, with careful selection of page titles, body copy, and invisible HTML tags called *metatags*. (If you're interested in the ins and outs of search engines and how to design Web pages with their capabilities in mind, check out Search Engine Watch, at www.searchenginewatch.com.)

The metatag system should give you nicely relevant results, but many Web designers manipulate this system by filling their metatags with lots of extra information. For example, some search engines used to judge a Web site's relevance to a particular topic by how many times that topic was mentioned on the site. Sneaky Webmasters simply put a couple hundred repetitions of the topic keyword into the page's metatag or put

hidden text on their pages that was the same color as the page's background color. A reader couldn't see the hidden text, but search engines could.

Most often used by pornography sites, these methods of duping search engines have become so rampant that they've developed a name: *spamdexing*. The better search engines have



Power Tool AltaVista's advanced search terminology may not be intuitive, but it can help you find almost anything, no matter how obscure.

fine-tuned their indexing software to exclude most spamdexed results, but some lag. If you use Excite (www.excite.com) or Lycos (www.lycos.com) to search for *Monica Lewinsky*, for example, you'll get links to porn sites as your top results.

The Best Ones One of the oldest (and still among the best) search engines is AltaVista (www.altavista.com). It has one of the largest indexes, which is important, since a larger index means the engine covers more of the Web and your search will more likely be successful. (See the screen shot "Power Tool.")

Google (www.google.com) has been around only since 1998, but it's already become a major player, thanks to its superb ability to find relevant results. Google lets you search by keyword, but it ranks its results based on how many other sites have linked to the sites that contain the term that you're looking for. The logic here is that if a bunch of sites link to a particular site, that site is more likely to have useful information. Google recently announced a specialized Apple-specific search engine (www.google.com/mac.html) that is devoted to information about Macs and Apple.

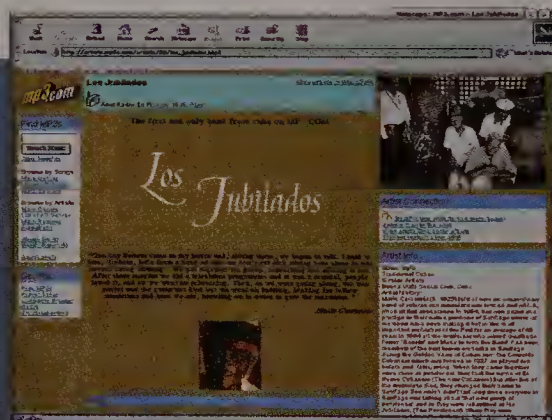
When to Use a Search Engine Search engines shine when you're looking for a topic that can be easily described by a keyword as well as when you're looking for things that are very spe-



Best Place to Find Music

MP3.com (www.mp3.com)

You've got to love a technology that makes acquiring and listening to music easier while simultaneously scaling the pants off fat-cat record-company moguls. MP3 audio has achieved those goals. Most people are using MP3 programs just to rip their CD collections to their hard disks so they can cart them around on an iBook or download them to a sporty MP3 player. But there are many musicians who use easily transportable MP3 files to reach a worldwide audience. At MP3.com, you'll find some new music from well-known



artists as well as a lot more music from artists unsigned by record companies. You'll discover that in many cases, there are darn good reasons why these people haven't been signed to record deals, but you'll also find some real gems. MP3.com has hi-fi and lo-fi versions of most of its music; the lo-fi versions are best for modem users.

Best Place to Track Down Old and Rare Books

Bibliofind (www.bibliofind.com)

It's nice that you can get practically any book in print at any number of online bookstores, from Amazon (www.amazon.com) to Powell's Books (www.powells.com). For those who are looking for a hard-to-find volume, however, Bibliofind has listings of more than 10 million used and rare books at booksellers around the world. Once you find a book in Bibliofind's database, you can buy the book directly from the seller; Bibliofind doesn't take a cut.

cific or obscure. For example, if you want to know everything about "Monster Trucks" or are looking for Web pages that include your name.

Directories Directories, by contrast, aren't built by automated software; people construct them. The biggest and most successful example, Yahoo (www.yahoo.com), maintains a staff that accepts site suggestions from Yahoo users, categorizes the sites, and adds them to the directory. The staff (their official name is the Yahoo Surfers) assigns sites a relevancy score, which is why the most popular sites in a given category show up at the top of a Yahoo listing, with lesser-known or lower-ranked sites listed below it in alphabetical order.

Because people are a lot better at evaluating Web pages than software is, directory-based sites tend to give you not only fewer results but also results that are more relevant to your search. But because people are also slower than indexing software, it can take a long time for a site to get added to a directory, no matter how good it is.

Another important directory is the fast-growing Open Directory Project (www.dmoz.com), which was acquired by America Online when it bought Netscape. Using the slogan "Humans do it better," the Open Directory Project is a Web directory with more than 20,000 volunteer editors, who had categorized more than 1.4 million sites as of January 2000. The remarkable thing about the Open Directory Project, however, is that it's freely available for licensing and use by other search sites, and many commercial services draw on it to supplement their own offerings. If someone adds a site to the Open Directory Project, you'll immediately find it on all the search sites that subscribe to the Open Directory Project.

When to Use a Directory It's often a good idea to start your Net search at a directory such as Yahoo, because most common searches there will get good results. For example, a search on Yahoo for *Charon* turned up several sites about the

moon of Pluto, clearly indicated by the category Science > Astronomy > Solar System > Planets > Pluto. This was just what my son needed for his science report. Looking for information about Charon with search engines brought up a bewildering mix of irrelevant things such as companies with that word in their name and sites dedicated to Greek mythology's ferryman of the dead, who also went by that name.

Neither Fish nor Fowl As you might guess, some search sites use a hybrid approach, with spiders backing up humans. Even Yahoo, the granddaddy of the human-based approach, does this now. When you do a search for something that

Yahoo can't find in its own directory, your query gets bounced to a search engine from Inktomi, which searches though its spider-built index. Similarly, the search engines at HotBot (www.hotbot.com) and AltaVista are now backed up by the Open Directory Project's database.

Ask a Simple Question The Ask Jeeves site (www.ask.com) combines the directory and search-engine approaches, too, but in a unique, user-friendly way. It allows you to ask questions in plain English, rather than requiring keywords. You simply type in a question such as "Where can I find a cost comparison for mortgages?" and Jeeves

returns a choice of answers. (See the screen shot "Just Ask.") How does it work? The site parses your question and compares it to the millions of questions, compiled by Jeeves staff, already on file. When it finds a match, Jeeves displays the answer to your question. If your question isn't on file, Jeeves performs a keyword search on your question, returning results from several other search sites.

The advantages to using Ask Jeeves are that you can phrase your question the way you would ask it in the real world and that you don't have to learn any search techniques. Plus, it almost always gives you useful results.



Best Place to Find Discussion Boards

Remarq (www.remarq.com)

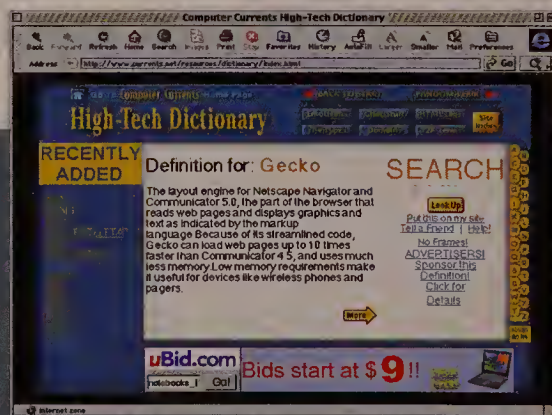
Net newcomers tend to think the Web is the Internet, but that's not so; a huge amount of the data transmitted over the Net is part of a large number of discussion boards called Usenet. There are more than 30,000 of these boards (called newsgroups) on Usenet, and chances are good that your ISP (Internet service provider) doesn't carry the entire newsfeed. That's why you'll want to turn to Remarq, which not only has virtually all of Usenet but also stores it so you can search

down discussions about, well, just about anything. Remarq organizes newsgroups into subject areas and puts a friendlier face on Usenet's arcane naming structure, so you don't have to remember the name of the comp.sys.mac.misc newsgroup.

Best Place to Decipher Tech Terms

Computer Currents High-Tech Dictionary (www.currents.net/resources/dictionary/inex.html)

Can't tell a GIF from a GIMP or a VAR from a VAD? You're not alone. There are so many



acronyms and technical terms to keep track of in the computer field that it's good we have the High-Tech Dictionary to separate the real terms from the technobabble. In addition to a searchable database of tech terms, the site has a list of emoticons (those sideways facial expressions made from keystrokes), HTML tags, file extensions, and Internet domain suffixes. The site can also generate a random term.

Metasearch Sites Another category of search site is the metasearch site. This is a search site that doesn't do its own Web indexing but instead searches other search sites. Most metasearch sites take your search term and submit it to several search engines, eliminating duplicate results; a good example of this kind of site is Go2Net (previously known as MetaCrawler), at www.go2net.com.

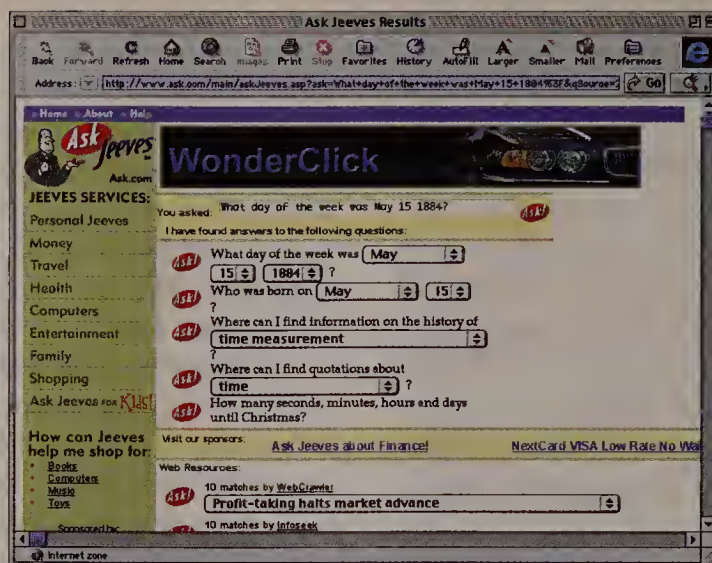
There are also metasearch utilities, such as Apple's own Sherlock, which can do smart searches of multiple sites (see "Sherlock Power Searching," *Secrets*, March 1999, for more tips about using Sherlock). Metasearching is useful because it winnows out a lot of the repeated hits you get from some search engines. But results are at the mercy of the accuracy of the individual sites in the metasearch. Following the ancient computing law "garbage in, garbage out," a metasearch site is only as good as its component sites.

All-in-One Sites Instead of going to a lot of sites, why not just build a site that lists other sites and lets you pick which one to search? If a search turns out to be not useful, another site is as close as your browser's Back button. That's the idea behind all-in-one search sites. One of my favorites is Search It All (www.search-it-all.com), which gives you a single query box that lets you search from any of 23 other search sites. The site also has specialized areas, such as Biomedical, Government, Reference, and Sports, for more specific searches, and each area gives you several information sources to choose from.

Find What You Want

For most of your searches, you'll probably start with a directory or Ask Jeeves. There are going to be times, however, when you can't beat a search engine. To zero in on the information you really want, you'll need to learn how to talk the language that search engines use.

Let's say that you've just bought a new Power Mac G4 and



Just Ask Ask Jeeves (www.ask.com) lets you ask questions in plain English instead of making you learn special search terms.

you want to add a second monitor and a fast video card to it. A search for *G4 multiple monitors* on AltaVista produces 1,940 results—more than you can comfortably look through. But a search for *G4 "multiple monitors"*—using quotation marks to group the last two words—trims the results list to 125, and adding *voodoo3* (the name of a video card) narrows the results to a manageable 34 sites.

Power-Searching with AltaVista

AltaVista is an amazingly powerful search engine *if* you know all of its little shortcuts and helpers.

In case, like most of us, you don't, here are some ways to make your searching more efficient.

You'll want to learn AltaVista's methods for two reasons: first, it's one of the largest and most popular search engines, and second, AltaVista has been around longer than many of the other search engines, and lots of them have adopted AltaVista's way of doing things. (Check the More Information or Advanced Search sections of other sites for their unique features.) Except when noted, you can employ all these search tips from the main AltaVista page, rather than from the Advanced Search page.

Where Will You Search? Below the search field on AltaVista's opening page, you'll see the Find Results On choices. Here, AltaVista lets you choose where to search: The Web, News, Discussion Groups, or Products. Selecting News limits your search to current news stories, whereas selecting Products instructs AltaVista to search shopping sites.

Specify Your Native Tongue One way to cut down on the number of irrelevant pages your search returns is to specify what language you speak. Chances are, you're only interested in Web pages in a single language. Why wade through hundreds



Best Place to Look for a Job

Monster.com (www.monster.com)

Tired of your job? Looking for a new one but don't have the time to pound the pavement or scan through the Sunday paper? Monster.com may just have your new job waiting for you. You can use the site by browsing the job listings, sorted (of course) by geography, category, and keywords. Or if you're ready to make the jump to "e-lancing," you can list yourself in an auction where employers bid for your skills. The site also includes job-hunting resources; lets you store your résumé online; and has thousands

of company profiles, so you can check out a potential employer before you apply.

Best Place to Find Movie and TV Info

The Internet Movie Database (www.imdb.com)

The ultimate resource for settling bar bets about virtually any movie or television program, IMDb (now owned by Amazon.com) has listings of titles, people (actors, actresses, and crew), characters, plots, and famous quotes. You'll also find their lists of the top films of all time (as well as the worst!) and

Academy Award winners. You can even discover which entertainers share your birthday. My favorite IMDb features are the listings of trivia and goofs associated with individual movies. If you've ever wondered about the significance of oranges in the *Godfather* movies or thought you saw a mistake in *Terminator 2*, you can get the facts here.

In recent months, the site has transformed from a directory of film and TV information into an entertainment portal with discussion boards, local movie times, and enter-

of sites in Romanian? You can cut back the number of results dramatically if you use the pop-up menu to specify your preferred language.

Use the Right Case When you search with all lowercase keywords, AltaVista searches for all forms of the word. Once you use a capital letter, AltaVista will return only results that have the same capitalization format. For example, when I searched for information about JavaScript, searching for *javascript* returned 1,292,770 pages, *Javascript* returned 280,480 pages, *JavaScript* returned 757,925 pages, and *JAVASCRIPT* returned 12,740 pages.

Wild Cards AltaVista allows you to use wild cards—partial words—in your searches by adding an asterisk to your words. Searching for *auto** returns all pages with words that include *auto* (for example, *automobile*, *automotive*, and *automatic*). Use wild cards to easily capture the singular and plural forms of your keywords.

Be Precise If you want to learn all about your favorite breed of dog, you might assume you can simply type *Labrador retrievers* in the AltaVista search field. Not so fast: all you've asked the search engine to do is find all pages that include either of those words. That means you'll get results that include pages on Labrador (the Canadian region) and pages on golden retrievers, as well as a few pages about Labrador retrievers. If you don't want to spend time scrolling through search results that are off the mark, you need to be more precise.

To find *only* pages that contain the exact phrase *Labrador retrievers*, put quotes around the phrase (like so: "*Labrador retrievers*"). However, if you want to know about taking your pet to a dog show, you probably won't have luck searching for "*Labrador retriever dog show*" unless you happen to find a page that has exactly those four words in that order. And if you search for "*Labrador retriever*" "*dog show*", you'll get all the dog-show pages and all the Labrador retriever pages, not just the ones about showing your breed.

You need to be able to tell the search engine that you want to find only pages that contain both the phrases *Labrador retriever* and *dog show*. For that, you'll need to move beyond typing simple phrases and begin adding powerful symbols and commands to your searches.

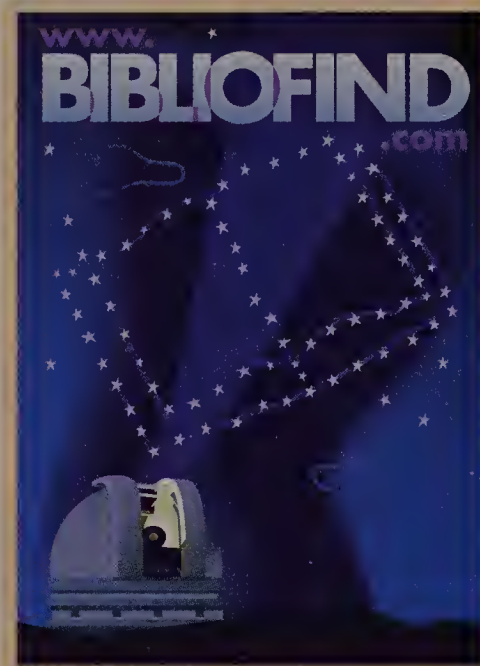
To tell AltaVista that each phrase must be on the pages it returns, add a plus sign—which signifies that the item following it must appear—before each phrase. Searching for +"*Labrador retriever*" +"*dog show*" requires that the pages contain both phrases. And as you'd expect, adding a minus sign before a word or phrase means that a returned page cannot contain that topic. That lets you narrow your search request—so +"*Labrador retriever*" +"*dog show*" -*California* would exclude shows held in the Golden State.

Try an Advanced Search

You may still get too many results, even when you've narrowed things down with the above techniques. When you need a more precise search, you can click on the Advanced Search tab on AltaVista's main page. The Advanced Search option doesn't allow you to use pluses and minuses to specify whether to include or exclude pages. Instead, you need to use *Boolean* logic—a mixture of keywords separated by ANDs, ORs, and NOTs—which gives much more specific results.

Let's say that you're searching for a review of the latest G4 Macs, trying to figure out which one to buy. You could go to AltaVista's main search bar and enter +*G4* +*review*, but that search results in reviews of lots of strange things (such as a page on cell aging), all of which have *G4* in their names. But if you search for +*G4* +*review* +"*power mac*", you'll miss all the pages that refer to the machine just as a Mac or Macintosh. It's time to try a Boolean search.

A regular search doesn't let you search for options where any one of a list of items must be true. But a Boolean search

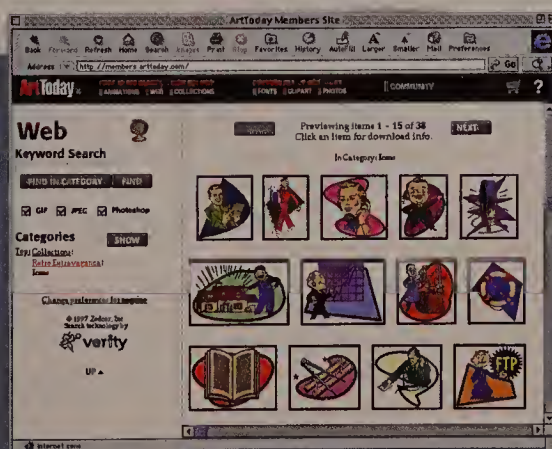


tainment news. IMDb accepts some reader submissions, so if you know something about a movie that's not already in the database, you can add it (they'll check what you tell them, of course).

Best Site for Finding Web Graphics

Art Today (www.arttoday.com)

Looking for graphics for your Web site? Want a snappy look but aren't so hot with Photoshop? Look no further than Art Today, which has 150GB of images available for paid members to download (membership starts at



\$29.95 per year and goes up to \$99.95 per year). But a free membership still gives you access to over 40,000 Web graphics. The free images include buttons, icons, backgrounds, and other useful graphics. When you cough up some cash, you get access to clip art, photographs, and fonts.

Best Way to Find Web Logs

Eatonweb Blog Portal

(www.eatonweb.com/portal/)

Not yet familiar with the term *Web log*? You soon will be. Web logs are personal Web sites operated by people who make lists of links to stuff that interests them, usually adding their own personal spin. A Web log (or weblog—sometimes shortened to *blog*) can range from simple pointers to other sites, to deeply personal online diaries, to random thoughts and jokes. There are now hundreds of these Web logs, and Web loggers become guides to the information that interests them.

lets you use the command OR to do just that. On the advanced-search page, therefore, you could search for *G4 AND review AND ("power mac" OR mac*)*. You need to put your OR possibilities within parentheses so the search engine knows where the list begins and ends. Also, note that on the Advanced Search page, you use the command AND instead of the plus sign.

If you want to narrow the search down further, you can use the AND NOT option, which works like the minus sign in a regular search. For example, if you want to skip all results from www.apple.com because you know their opinion about the G4 already, your search would be *G4 AND review AND ("power mac" OR mac*) AND NOT host:apple.com*. (What's that funky *host: apple.com* thing we just did? See the table, "8 Ways to Find Things Faster," for these special commands.)

The Last Word

Automated searching has come a long way in the last couple of years, but the best software still can't match a human editor



when it comes to finding relevant results. That's why your first stop when looking for information on the Web should usually be a directory, such as Yahoo or the Open Directory Project. Ask Jeeves's plain-English queries also deserve special mention, because the site is very easy to use and nearly always gives useful results.

If you're looking for a very specific topic, you'll want to use one of the keyword-based search engines. AltaVista and Google, although they work in vastly different ways, both excel at providing relevant results. Google in particular does a great job of sparing you most of the junk sites.

Finding information on the World Wide Web is still far from a perfect process, but with your newfound knowledge and a little persistence, there's no doubt that your search will be a success. **m**

Contributing Editor TOM NEGRINO's latest book is *Quicken 2000 for Macintosh, Visual QuickStart Guide* (Peachpit Press, 1999). Negrino's Web log can be found at www.backupbrain.com.

8 WAYS TO FIND THINGS FASTER

AltaVista has a variety of search attributes you can use to make your searches even more precise. To use one, go to AltaVista's Advanced Search page and type it in the search field, followed

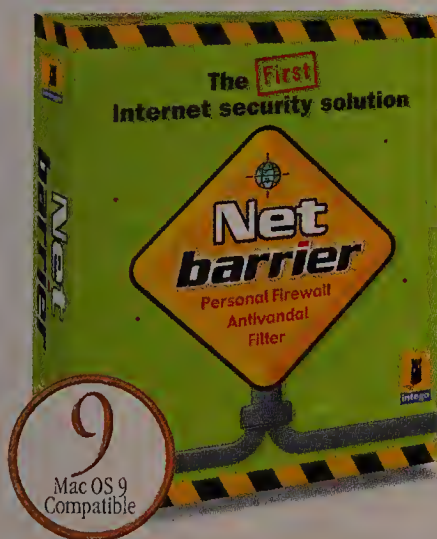
by a colon and the text you want to require or disallow. These search attributes let you zoom in on images, links, or portions of Web pages.

Search Attribute	What It Does	How It Can Help You
anchor:	Finds pages that contain the specified word or phrase in the text of a hyperlink. Searching for <i>anchor:"Click here to make money fast!"</i> would bring you pages with the words <i>Click here to make money fast!</i> as links.	This search attribute lets you find links with particular wording.
domain:	Finds pages within a particular top-level domain or two-letter country code. Use <i>domain:gov</i> to find pages from government sites or <i>domain:uk</i> to find pages on British sites	This is particularly helpful if you're trying to find information on an official site. For example, you might want to see what the Justice Department itself has to say about Microsoft.
host:	Searches just the host-name portions of URLs. For example, <i>host:apple.com</i> would find pages on Apple's Web site, and adding <i>-host:geocities.com</i> to your search would keep pages with annoying pop-up windows out of your results.	With this search attribute, you can narrow your search to just a single host but still get all the sites under that host. For example, you would get pages at info.apple.com as well as www.apple.com .
image:	Finds pages with images that have a specific file name. Use <i>image:pikachu</i> to find all the pages with an image named <i>pikachu</i> .	This will save you a lot of time if you want to see something instead of just read about it.
link:	Finds pages with a link to another page with the specified URL text. You can use <i>link:www.yoursite.com</i> to find all the Web pages that link to your site.	This search attribute lets you find out how popular a site is. One indicator of a site's popularity is the number of other sites that link to it. If you're a Webmaster, this search lets you find out which sites have linked to yours.
text:	Finds pages that contain the specified text, excluding image tags, links, or URLs.	This is much the same as a regular Web search; it's not used very often.
title:	Finds pages that contain the specified word or phrase in their titles. Searching for <i>title:"welcome to adobe golive"</i> gives you all the Web pages of GoLive users who couldn't figure out how to turn off the program's default title (there are more than 30,000 Web pages with this title out there, at last count).	Since the title of a page usually refers to the topic or the most important information of a page, this search attribute helps you find relevant results and cut down on the number of hits.
url:	Finds pages with a specific word or phrase in the URL. Use <i>url:macintosh</i> to find all pages on all servers that have the word <i>macintosh</i> anywhere in the URL.	This search attribute lets you do broad searches for terms in URLs.

You think the Internet is safe. Think again...



NetBarrier. The first Internet security solution for Macintosh.



All Macs connected to the Internet (dialup, DSL, cable-modem) are exposed to hackers. Whether you are a home user or a professional user, your data interests them. That's why you need a security solution that only NetBarrier can provide.

Personal Firewall

NetBarrier protects and monitors all incoming and outgoing data. A customized mode allows you to create your own defense rules, thereby offering the most secure level of protection.

Antivandal

NetBarrier blocks all attempts to break into your Mac, detects wrong passwords and logs vandal attacks for complete protection. Moreover, it has an alarm to inform you of every intrusion attempt.

Internet filter

NetBarrier analyzes data as it leaves your computer and prevents unauthorized exporting of private information such as credit card numbers, passwords, sensitive data and more...

Now sold at
ClubMac
www.clubmac.com

Outpost.com

Now available for resellers through
pinacor
1.800.PINACOR / www.pinacor.com

www.intego.com



Mac and the Mac logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Outpost.com™ is a trademark of Cyberian Outpost, Inc. All other trademarks belong to their respective owners. Digital imagery® copyright 1999 PhotoDisc.

Circle 85 on card or go to www.macworld.com/getinfo

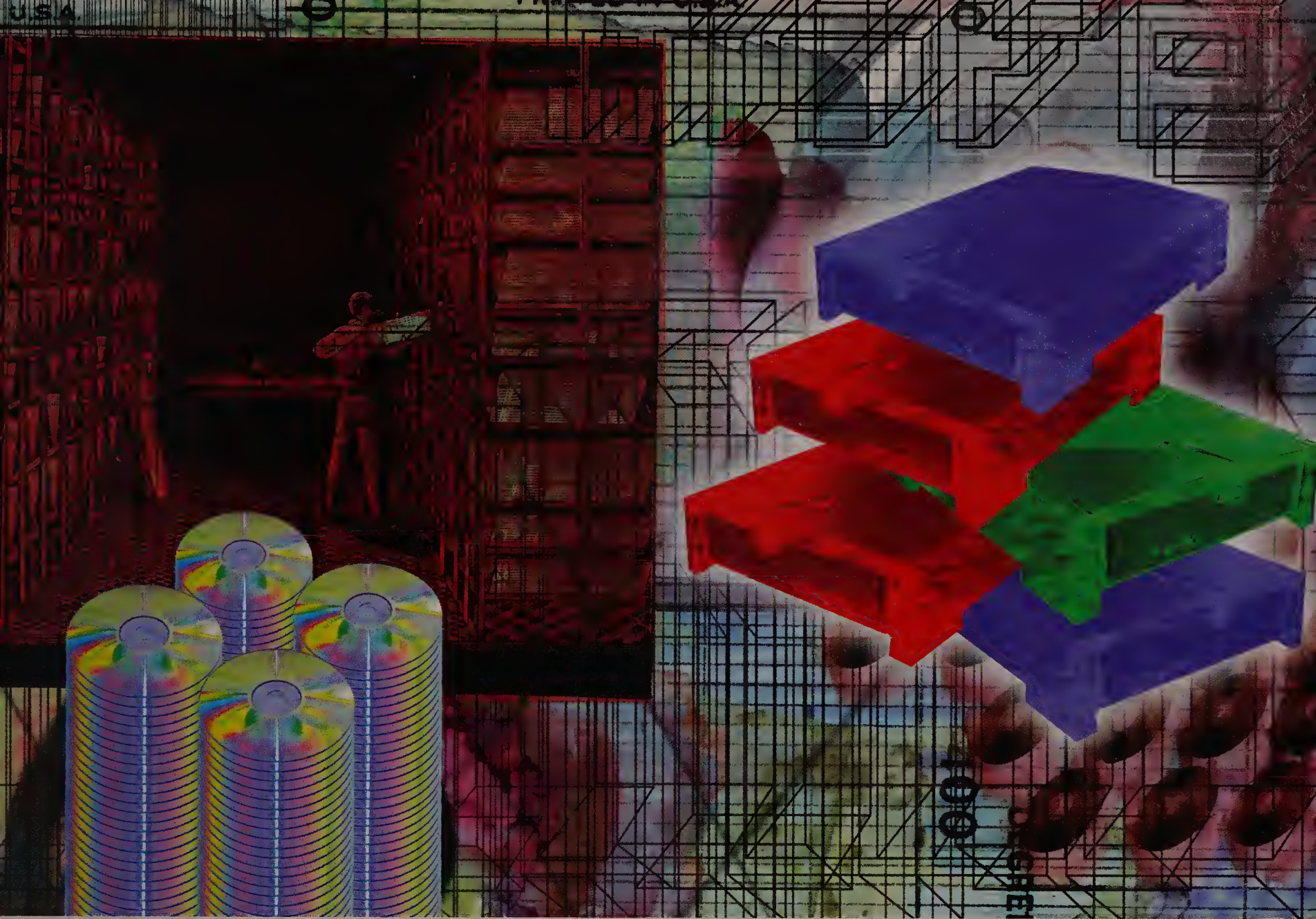


READY ON THE CARRYING CASE.



THE LACIE POCKETDRIVE™ Measuring just 3.5" x 5.75" x 1" and weighing a mere 12.5 oz., it's the hard drive equipped with both USB and FireWire™ connections, and available in either 6 or 18 gigabytes of portable storage.

LACIE Made for ideas.



Hold Everything

NEW DVD-RAM DRIVES OFFER MORE
STORAGE FOR LESS MONEY

by Kelly Lunsford

YOUR MAC'S HARD DRIVE MAY BE A REGULAR behemoth compared to what you had even a few years ago, but then again, your files have gotten bigger too. Your archive of Adobe Photoshop projects, video from your DV camcorder, and your collection of favorite MP3s can eat up gigabytes of space, creating hardships for even the most monstrous of drives.

Until recently, if you wanted to back up large amounts of data—or if you needed an easy way to transfer very big files (to a service bureau for printing, for example)—your only

options were technologies such as tape, Iomega's Jaz, CD-Recordable (CD-R), or CD-Rewritable (CD-RW) drives.

But times are changing, and there's a new way to store your data that could one day make those old standbys seem as outdated as polyester leisure suits.

Meet DVD-RAM, a rewritable DVD format. A DVD-RAM disc holds more data than a 2GB Jaz cartridge, and the hardware is easier to use than CD-R and CD-RW drives. DVD-RAM products have crept into the market in recent months (see the sidebar, "Here to Stay?"), and Macworld Lab tested six of the newest

Macworld
LAB TEST

DVD-RAM drives to see if this technology is really an affordable and fast answer to your storage woes.

The Basics

What DVD-RAM *isn't* is as important as what it is. DVD-RAM stands for Digital Versatile Disc Random Access Memory. The name refers to the RAM-like way a DVD-RAM drive saves your data onto discs, but *true* RAM lives in your computer and parcels out memory to Microsoft Word, Photoshop, and other programs.

And a DVD-RAM disc isn't the kind of DVD you can rent from your neighborhood video store and watch in your new set-top DVD player or on your iMac DV. DVD-Video, which holds movies, has received a lot of attention lately because of its supreme durability and capacity, but because DVD-Video is read-only, there's no way to harness this power for your storage needs. That's where DVD-RAM enters the picture. DVD-RAM is the first recordable and rewritable DVD format to hit the consumer market.

Director's Chair Keep in mind that just as DVD-RAM isn't DVD-Video, it can't be used to create DVD-Video. This means you can't use your new DVD-RAM drive to start the mass production of your own home-movie discs. The DVDs you use to watch movies must contain data compressed in a format called MPEG-2, which organizes and optimizes video files for playback. (This compression process requires special hardware and software that can cost more than \$10,000 and that are not currently compatible with DVD-RAM.) For the moment, DVD-RAM has one talent: storing information—lots and lots of it.

DVD-What? Despite its confusing name, the technology behind DVD-RAM is fairly straightforward. In fact, if you've been using a CD-R or CD-RW drive to burn backup discs or make your own music CDs, you won't find the mechanics of DVD-RAM that foreign.

Both types of drive use a high-power laser to burn data, in the form of 1s and 0s, onto spinning discs. DVD-RAM media look different from CDs—they are encased in a protective plastic cartridge, similar to those used in older CD-ROM drives before tray-load-

ing models appeared. Despite this difference, the discs themselves are the same size as CDs.

The Big Deal On top of DVD-RAM discs' greater storage capacity, the drives can copy files using the Finder and change and delete individual files without rewriting an entire disc.

And if that isn't enough to grab your attention, consider this: Apple sees enough potential in the technology that it has replaced the DVD-ROM drives on its high-end G4s with DVD-RAM drives.

Packin' It In When it comes to storage devices, size definitely matters. By using a narrower laser to record data, DVD-RAM drives are able to store significantly more data than CD-RW drives, packing as much as 2.6GB onto a single-sided disc. A typical CD can hold 650MB, and the highest-capacity discs can squeeze in only 700MB. What's more, you can flip some DVD-RAM discs over and record on both sides, bringing the final tally up to a whopping 5.2GB per double-sided disc. In case you don't have your calculator handy, that's the equivalent of 8 CDs or just about 21 250MB Zip disks. (2.6GB DVD-RAM discs cost about \$30, and 5.2GB discs cost about \$50, compared with close to \$15 for a 250MB Zip disk and around \$100 for a 2GB Jaz disk.)

Around and Around The DVD-RAM format also stores data much more efficiently than its rewritable CD counterpart. CD-RW drives write data in a continuous spiral, which means the drive has to start from the beginning and rewrite the *entire* disc each time you put something new on it. That's a lot of unnecessary work if you simply want to delete or add a few JPEG image files from your vacation or back up some Word files.

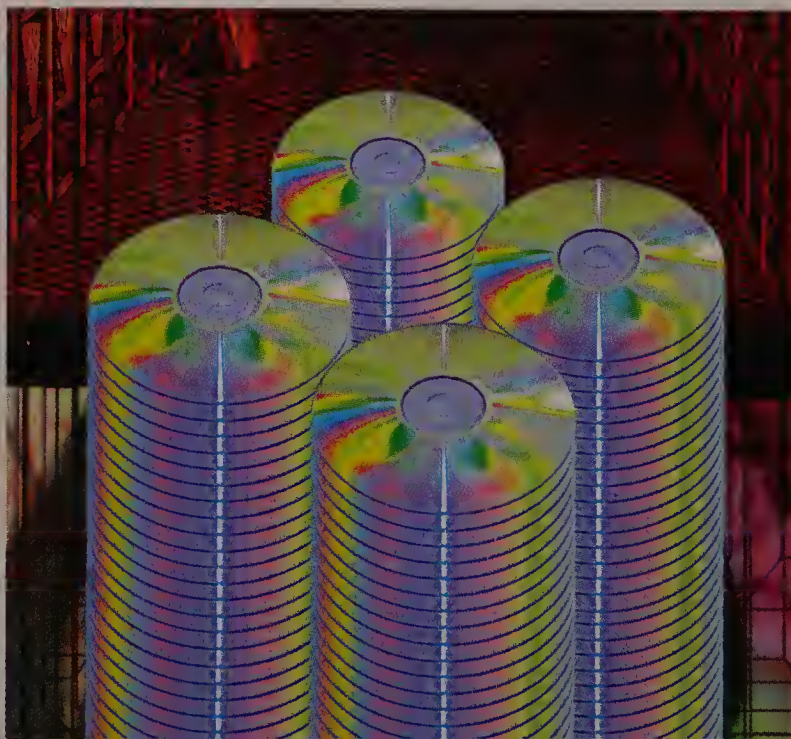
DVD-RAM drives, on the other hand, allow you to write new information to a disc just as you would to your hard drive. They're able to do this because the discs are segmented into 2K blocks, called *sectors*, that serve as markers between chunks of data. Using these markers, a drive can quickly skip to sections of the disc that need to be altered and write over the information in those blocks without disturbing the rest of the disc.

And because a DVD-RAM volume appears on your desktop, like a Jaz or Zip disk does, transferring items is as simple as dragging and dropping them onto the disc icon. CD-R and CD-RW drives require special software such as Adaptec's (800/442-7274, www.adaptec.com) DirectCD, which is bundled with most drives and which allows Finder copies but creates only UDF (Universal Disc Format, a newer cross-platform standard) discs. Otherwise, you must use a program such as Adaptec's Toast (also bundled with drives or available separately as Toast 4 Deluxe for \$99) to record data onto a disc.

The Goods

If you plan to buy a new G4, you might want to let Apple take care of the DVD-RAM-selection process for you. The drives are standard on the high-end Power Mac G4/500 and are available as a \$300 option on other G4 Macs. We got subpar performance with Apple's driver, but the drive is very compatible and Apple DVD Player allows you to play DVD movies with it. If you already have your Mac, however, you can choose between an internal and external version.

Making a Connection Of the six drives we tested, five were external devices that use a SCSI-2 connection to hook up to the Mac. The exception was the \$495 ProMax Systems Internal DVD-RAM drive. New Macs do not have a SCSI port, so unless you have an older Mac, you'll have to buy and install—if you haven't already—a SCSI card to use these drives. The \$549 QPS Que DVD-RAM drive comes with a SCSI card for an extra \$30. (For information on buying and installing SCSI cards, see "Generation Gap," August 1999.) For those who own a new iMac or who find the idea of opening up a computer and fiddling with its



guts a nerve-wracking proposition, FireWire DVD-RAM drives should be shipping by the time you read this.

As with any external device, using a SCSI DVD-RAM drive requires a little extra work. You'll need to make sure your drive talks to your computer correctly. Apple's DVD driver, which tells your Mac how to interact with DVD devices such as DVD-RAM drives, works only with an *internal* IDE DVD drive—the only one it can see. To compensate, companies are bundling their external drives with Software Architects' (425/487-0122, www.softarch.com) \$100 DVD-RAM TuneUp software. In addition to providing the necessary drivers, this software lets you format DVD-RAM media in both HFS (Hierarchical File System) and HFS+, the standard Mac disc formats, as well as in UDF. The shipping version of TuneUp currently supports only OS 8.6, but a free OS 9 upgrade was released just prior to press time. You can download it from Software Architects' Web site.

The Test's the Thing

If you're in the market for a removable-media drive, there is more at issue than just capacity—speed and compatibility are at least as important. When you're rushing to get your last-minute design project to the printer, waiting for a slow drive to copy the files onto a disc can be annoying. And if your service bureau can't read the disc, you have the makings of a first-class headache.

Here to Stay?

AS ANYONE WHO OWNED A BETAMAX VCR CAN TELL YOU, IT DOESN'T always pay to be first on a new technology's bandwagon. Hot new products can easily become obsolete.

Until recently, it looked as though DVD-RAM might suffer a similar fate. Although DVD-RAM drives for the Mac have been available for more than a year, a war over recordable-DVD standards kept many potential customers at a cautious distance while manufacturers divided themselves up among four different, incompatible formats: DVD-R; DVD-RW; and the two main consumer rewritable options, DVD+RW and DVD-RAM. While Panasonic, Hitachi, and Toshiba united behind the 2.6GB DVD-RAM standard, Sony and Hewlett-Packard put their considerable weight behind the long-awaited DVD+RW format with the promise that the first drives would hold 3GB.

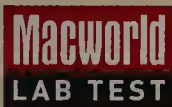
All that changed in November, when HP and Sony announced they were abandoning their original plans for the 3GB drives and would instead focus on delivering a 4.7GB DVD+RW drive in 2001. With a shipping DVD+RW product still more than a year away, customers finally stopped waiting and started buying DVD-RAM products.

And with Apple now adding its support for the DVD-RAM format, the future looks bright for the once troubled drives. In fact, it looks like the DVD+RW backers will miss the train once again. Panasonic and Hitachi are already shipping a 4.7GB DVD-RAM mechanism to manufacturers; and these drives may appear on shelves as early as the middle of this year.

Macworld Lab tested six DVD-RAM drives for speed and compatibility. (See the benchmark, "Speeding Along," for test results.) Despite their various product names, all of the drives contained mechanisms by one of two companies—Hitachi and Matsushita, parent of Panasonic. (For details and ratings, see the table, "6 DVD-RAM Drives Compared.") To get an idea how these drives compare with other

types of removable-media devices, we also tested Iomega's Jaz 2GB drive and Yamaha's 4x2x6 CD-RW drive (using Adaptec's Toast 4 Deluxe).

The Need for Speed There are two main ways to transfer files onto a DVD-RAM disc. You can use the Finder to drag and drop selected files onto the drive icon, just as you would with a Jaz or Zip drive. But if you're planning to use the drive for



Speeding Along

When it comes to backing up data, speed is nearly as important as capacity. All the DVD-RAM drives we tested can record the same amount of data, but some record faster than others. Our Editors' Choice pick displays performance similar to that of another drive, but its price tag is smaller.

Best results in red. Reference systems in italics. All results are in seconds.

		MAC OS 8.6 FINDER		RETROSPECT 4.2
Mechanism		Copy 20MB File (HFS)	Copy 20MB File (UDF)	Backup 424MB of Data
★ APS Tech DVD-RAM External SCSI	Matsushita PD-2 LFD100	49.8	42.3	303.8
LaCie K525 Case DVD-RAM	Matsushita PD-2 LFD100	49.9	42.5	303.3
ProMax Systems Internal DVD-RAM	Matsushita APD-2 LFD110	52.2	44.3	673.2
EzQuest Boa DVD-RAM *	Hitachi GF-1050	99.6	93.6	967.5
Pinnacle Micro Flex Drive	Hitachi GF-1050	82.6	39.0	307.3
QPS Que DVD-RAM	Hitachi GF-1050	87.6	40.2	309.7
Iomega Jaz 2GB	Jaz 2GB	14.3	NA**	184.7
Yamaha 4x2x6 CD-RW (CD-R mode)	Yamaha 4260	95.4	NA**	412.7

★ = EDITORS' CHOICE

*Speeds were slower due to disabled write cache, which company promises to fix. **Not applicable; the UDF format is generally used only with DVD media.

Behind Our Tests

We tested all drives using a Power Macintosh G3/400 with Mac OS 8.6, 128MB of RAM, a 2MB system disk cache, and virtual memory disabled. For file-transfer tests, we copied a 20MB Adobe Photoshop file using the Finder. (We used Toast 4 Deluxe with the Yamaha CD-RW drive.)—Macworld Lab testing supervised by Gil Loyola

backup, you'll probably also use Dantz Development's (800/225-4880, www.dantz.com) Retrospect, which optimizes and facilitates this process by bypassing the Finder altogether. We compared speeds for both types of file transfer: using the Finder to copy a 20MB Photoshop file and using Retrospect 4.2 for a 424MB data backup.

Retrospective Four of the drives—APS Tech's \$500 APS DVD-RAM External SCSI, LaCie's \$579 K525 Case DVD-RAM, Pinnacle Micro's \$649 Flex Drive, and QPS's Que DVD-RAM—hustled at around 1.4MB per second when backing up with Retrospect, due to the program's advanced optimization tools. Of the four, the LaCie and APS Tech drives were the fastest, beating out the Pinnacle Micro and QPS drives by mere seconds. Although Iomega's Jaz drive stole the show, copying files at 2.3MB per second, these four DVD-RAM drives were on average 25 percent faster than Yamaha's CD-RW drive, which was writing in 4× CD-R mode.

Although based on the same Hitachi mechanism as the Pinnacle Micro and QPS drives, the \$579 EZQuest Boa DVD-RAM drive transferred files very sluggishly. In fact, it required a full 16 minutes to back up the files that the other drives handled in only 5 minutes. The problem was that the Boa's write cache was disabled, preventing the drive from using its 1MB data buffer and thus slowing down performance.



EZQuest is aware of the problem and plans to correct it on new drives.

ProMax's drive, the one internal ATAPI drive in our tests, also lagged considerably when backing up data with Retrospect. The drive took more than twice as long as drives with similar mechanisms to complete a large backup (copying at roughly 0.6MB per second). The culprit is Apple's driver—not the drive. The numbers improved when we switched to the drivers included on Software Architects' TuneUp CD.

Lost and Found If you don't have a backup program such as Retrospect or if you need to transfer only a few files at a time, you can use the Finder to copy files onto your DVD-RAM drive. There is, however, a serious drawback to using the Finder. The performance of each DVD-RAM drive took a significant hit when we used the Finder to copy a 20MB Photoshop

file. In fact, speeds slowed to less than half those of the Retrospect transfers. This is because the Mac OS copies files in 512K blocks instead of the 2K blocks into which DVD-RAM media is formatted, forcing the drive to slow down while the large packets of data are broken into 2K blocks.

Neck and Neck? The APS Tech, LaCie, and ProMax drives, all based on Matsushita hardware, produced virtually identical results in the Finder-based HFS and UDF copy tests. The drives copied the files at around 0.5MB per second. Even with the drop in

speed, the Matsushita-based drives were still about 50 percent faster than Yamaha's CD-RW drive, which transferred the data at a paltry 0.2MB per second.

Results were considerably less consistent with the Hitachi-based DVD-RAM drives. When copying 20MB files in UDF format, the Pinnacle Micro and QPS drives outperformed all three Matsushita-based drives by a few seconds. But when copying the same file using HFS, the Pinnacle Micro and QPS drives suffered a huge loss of performance. Both drives took more than twice as long to copy the same Photoshop file in HFS as in UDF. EZQuest's drive was once again the slowest, placing last in both tests.

Playing Nice

If you work in a small office space or have to keep up with several projects at once, you know that hard drives aren't the only things

6 DVD-RAM Drives Compared

Company	Product	Mouse Rating	List Price	Contact	Mechanism	Data-Buffer Size
	EDITORS' CHOICE					
APS Tech	APS DVD-RAM External SCSI	★★★★	\$500	800/395-5871 www.apstech.com	Matsushita PD-2 LFD100	2MB
EZQuest	Boa DVD-RAM	★★½	\$579	714/694-0031 www.ezq.com	Hitachi GF-1050	1MB
LaCie	K525 Case DVD-RAM	★★★★½	\$579	503/844-4500 www.lacie.com	Matsushita PD-2 LFD100	2MB
Pinnacle Micro	Flex Drive	★★★	\$649	800/553-7070 www.pinnaclemicro.com	Hitachi GF-1050	1MB
ProMax Systems	ProMax Internal DVD-RAM	★★½	\$495	800/977-6629 www.promax.com	Matsushita APD-2 LFD110	2MB
QPS	Que DVD-RAM	★★★	\$549	800/559-4777 www.qps-inc.com	Hitachi GF-1050	1MB

without enough space. The last thing you need is yet another drive sitting around taking up valuable desktop real estate.

If an extra piece of hardware in your already crowded cubicle means the difference between having a place to set your morning bagel and eating off your lap, you will appreciate a DVD-RAM drive's flexibility as an all-in-one optical-media drive. Although they can't write to CD-R or CD-RW discs, the drives can play CD, CD-ROM, CD-R, CD-RW, and DVD-ROM media.

You Can Take It with You You should be able to read most discs that are sent your way, but unless your colleagues have DVD-RAM drives of their own, you'll probably run into trouble when it comes to sharing your files with the rest of the world. DVD-RAM discs will not play in CD-ROM, CD-R, and CD-RW drives. You can, however, play some DVD-RAM discs in many DVD-ROM drives.

DVD-RAM media come in two flavors: Type I and Type II discs. Type I discs, which are all single-sided, and double-sided Type II discs cannot be removed from their protective cartridges. But single-sided Type II DVD-RAM discs can be removed from their cases and played in third-generation or later DVD-ROM drives. So if your colleagues own iMac DVs, blue-and-white G3s, G4s, 2000 model PowerBooks, or recently purchased DVD-ROM drives, they shouldn't have any problems playing single-sided Type II DVD-RAM discs in their DVD-ROM drives. If you work in a cross-platform environment, your chances for compati-

bility are less promising. Because DVD-ROM drives have been a PC staple for longer, more older—and incompatible—drives are out there.

Home Movies Watching DVD movies on your external DVD-RAM drive is another tricky proposition. DVD playback requires special hardware and software that decode the MPEG-2 data on DVD-Video discs. Theoretically, if you use a computer such as a G4 that already supports DVD playback, you *should* be able to use those same drivers with your external DVD-RAM drive. Unfortunately, this isn't the case. Because Apple DVD Player will read only from the machine's first internal IDE drive, the DVD drivers will not recognize SCSI devices. As a result, external drives require additional decoders such as Wired's (408/855-9350, www.wiredinc.com) \$219 Wired 4DVD MPEG-2 card, which comes bundled with the APS drive for an additional \$190. But the software isn't up to the challenge of DVD-RAM just yet—none of our attempts to play movies on external DVD-RAM drives with the MPEG-2 card were successful. Even on a computer with built-in hardware, Wired's player produced the same lack of results.

Macworld's Buying Advice

DVD-RAM is by no means the fastest removable-media technology on the block. But if you need lots of removable storage or want to back up your data onto durable and relatively inexpensive media, a DVD-RAM drive could be a wise investment. Of the Matsushita devices we tested, APS Tech's DVD-RAM drive and LaCie's K525 Case DVD-RAM drive performed almost identically across the board. APS Tech's drive is \$79 less than LaCie's and is therefore our Editors' Choice.

If the ability to continue playing movies on your DVD-equipped Mac is more important to you than really speedy

Inside a DVD-RAM

650-nanometer red laser

Substrate (safe to scratch)

Wobbling track

Data (pits)

Land

Groove

Phase-change layer

Reflection layer

Protective layer

ILLUSTRATION BY ARNE HURTY

backups, a better choice may be replacing your DVD-ROM drive with an internal DVD-RAM drive, such as ProMax's Internal DVD-RAM drive. This is the only surefire third-party option if you hope to watch DVD movies on your computer via your DVD-RAM drive.

Many of the inconsistencies and problems we found during our testing serve as reminders that DVD-RAM is still very much a new technology—but one you will undoubtedly be hearing more about in the next year. Evolution will eventually have its way with the old, incompatible DVD-ROM drives—making file sharing less of an issue—and new software will fill in some of the gaps currently marring DVD-RAM's reputation. **m**

Assistant Editor KELLY LUNSFORD covers graphics software, networking products—and now DVD-RAM technology.

EDITORS' CHOICE

★★★★ APS DVD-RAM External SCSI

This drive has a large data buffer and good overall quality, and it's priced \$79 less than LaCie's nearly identical drive.

REAL PRODUCTS REAL RATINGS

Company: APS Tech (800/395-5871, www.apstech.com). **List price:** \$500.

Interface	Comments
SCSI-2	Good overall performance; available with Wired 4DVD MPEG-2 card for \$690.
SCSI-2	Very slow due to a problem with write cache; company is fixing this glitch.
SCSI-2	Good overall performance.
SCSI-2	Slow when formatting in HFS.
Internal ATAPI	The only drive able to play DVD-Video; slow with Retrospect.
SCSI-2	Slow when formatting in HFS.

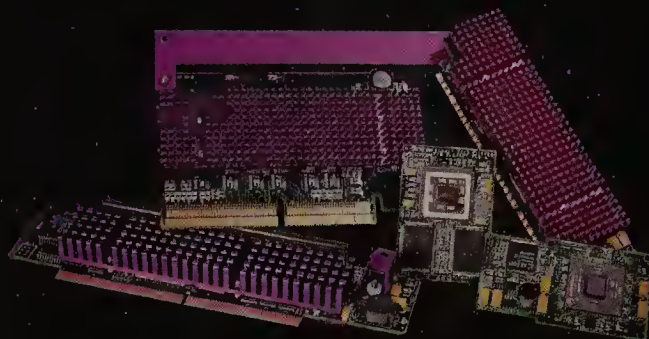


SONNET™

SIMPLY FAST™

It's about speed and time. Simply add a Sonnet processor upgrade card to your Power Macintosh or PowerBook and instantly work faster. Wherever time matters, more people depend on Sonnet. You should too. For more information, call us at 1-949-261-2800 or visit our website at:

www.sonnettech.com



Secrets

Voice-Protect Your Mac

TO PASSWORD-PROTECT YOUR MAC, JUST SAY THE WORDS

by Ted Landau

You start up your Mac, and it prompts you to speak to it before it will let you access anything on your hard drive. Taking a cue from *The Matrix*, you reply, "There is no spoon." The Mac recognizes the unique characteristics of your voice and lets you log in. This is no science-fiction scenario—you can do this today with Mac OS 9.

The Multiple Users control panel, new to OS 9, lets you create spoken passwords with a feature called Voiceprint. Overall, Apple has done a great job of making Voiceprint verification reliable and easy to use. Still, there are a few things that can go wrong. (To learn the basics of using this new password system, see "Setting Up Voiceprint.")

Know What to Say

Don't make your Voiceprint phrase too short or your Mac may have trouble recognizing it. In fact, if you get a message that says you spoke too softly, a short password could be the real problem.

Also, make sure you don't use your typed password as your spoken phrase, unless you want everyone in hearing distance to be able to access your hard drive.

Know When to Stop

Stop talking *before* you hit the Stop button when you're through recording. Otherwise, you're likely to get an error message that says you've clicked on the Stop button too soon. You may also get this mes-

sage if there's too much extraneous noise when you click on the Stop button. In both cases, the software assumes you weren't done entering your phrase.

If you're using one of the new fanless iMacs and get this error, Apple says it may be caused by the noise of the iMac's hard drive. Apparently, if you had a fan it would mask the noise. There isn't much you can do except try again and keep extraneous noise to a minimum.

"Lost" Microphone

If you get a "No microphone found" error message at log-in even though you have a microphone plugged into your

Mac, it may be that you don't have a compatible version of Apple's Speech Recognition software installed. You need version 2.0.1 (which comes with Mac OS 9) or a newer version for Voiceprint passwords to work. To check the version number, open the Get Info window of the Speech Recognition extension.

Switching microphones can also lead to trouble. If the microphone you're using now is different from the one you used to record your Voiceprint phrase, you may get the "No microphone found" error. The fix is simple: rerecord your Voiceprint phrase using the current microphone.

continues



Setting Up Voiceprint

Dealing with Rejection

If you ever change your password in the File Sharing control panel, you'll have to change your password in the Multiple Users control panel to match it—or else Voiceprint won't work. If you change your name in the File Sharing control panel, you'll have to start from scratch and rerecord your Voiceprint phrase.

Altering the tone of your voice or changing the syllables you emphasize can prevent the software from making a match at log-in. If your Mac fails to recognize your phrase, try to repeat it exactly the way you recorded it. If this still doesn't work, don't panic: after three rejections, your Mac will prompt you to enter your typed password instead. Yup, your typed password works, even with Voiceprint enabled. Comforting to know in case you ever get laryngitis.

Changing of the Guard

Voiceprint is the flashiest component of Multiple Users' beefed-up security. In fact, with the arrival of Mac OS 9, you have more protection options than with any previous Mac OS. However, the arrival of Mac OS 9 also means bidding adieu to a couple of older security features.

An indication of missing features is the dimmed-out Protect System Folder and Protect Applications Folder items in the General Controls control panel. You can't select them, which is Apple's not-so-subtle way of saying that you should now use the Multiple Users control panel to obtain this protection.

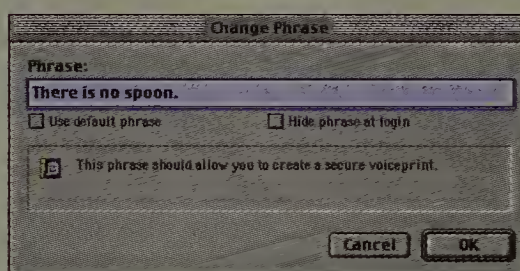
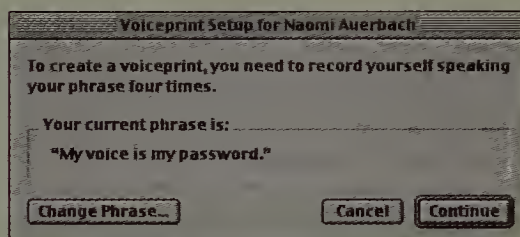
If you find that the At Ease software is missing, this is no mistake. Once the Multiple Users control panel is installed in your System Folder, even if it's not turned on, the Mac OS trashes At Ease.

This might all be fine if the Multiple Users feature were capable of the heavy-weight security often needed in schools and other public places. But it isn't. It's easy to get past Multiple Users' protection simply by starting up from a bootable CD, such as any Mac OS system-software CD. (To learn about other ways that Multiple Users is vulnerable to security breaches, see "Top Secret OS 9," March 2000.) If Multiple Users isn't adequate for your security needs, turn to AppleShare IP or Mac OS X Server. **m**

TED LANDAU covers the latest Mac OS 9 tips and fixes on his MacFixIt Web site (www.macfixit.com). No password needed.

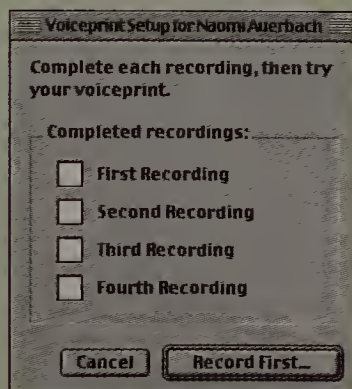
FINDING COMPLETE INSTRUCTIONS ON SETTING UP A VOICEPRINT PASSWORD isn't easy. Apple has provided some of the steps in the Mac Help files but glosses over important details. Here's the full set of instructions and how to get past a couple of tricky spots:

- 1 Open your Mac's File Sharing control panel and type in a user name and a password (distinct from your Voiceprint password).
- 2 Open the Multiple Users control panel and enable Multiple User Accounts by clicking on the On button at the bottom of the window.
- 3 Click on the Options button. Under the resulting window's Login tab, check the Allow Alternate Password check box. Click on Save to go back to the main Multiple Users window.

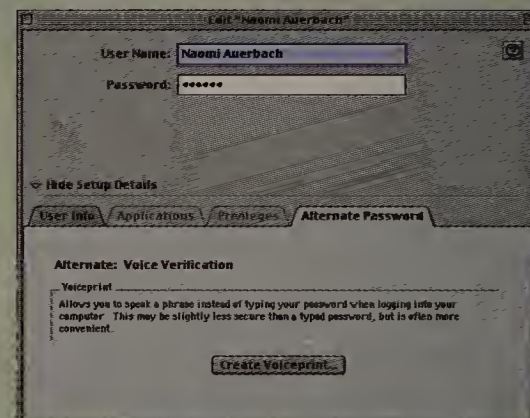


Do Your Own Thing Click on the Change Phrase button to use your own password phrase.

- 8 The next step is to record your password four times. To begin, click on the Record First button (see "Record Your Phrase"). Click on Record in the resulting dialog box and speak your password clearly. Click on the Stop button when you're done.
- 9 Finally, click on the Done button to return to the previous window, where the button will now say Record Second. Repeat the procedure three more times. Voilà—you're now ready to use your Voiceprint password at your next log-in.

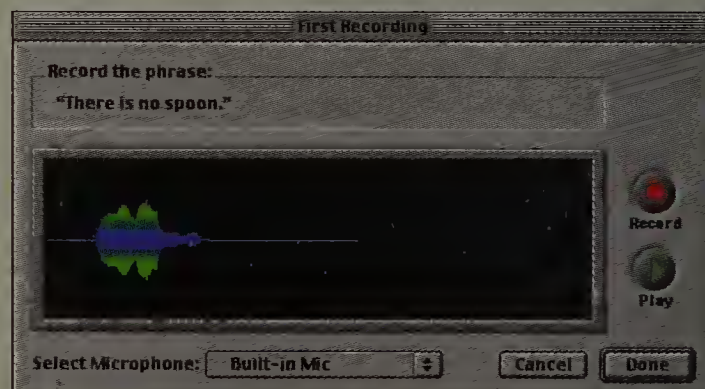


Record Your Phrase Voiceprint gains accuracy in distinguishing your unique voice pattern by comparing four separate recordings of your spoken password.



Create Voiceprint Once you get to this screen, making a Voiceprint password is easy. Start by clicking on the Create Voiceprint button.

- 4 Select your name from the Multiple Users window and click on the Open button. Select the Show Setup Details option.
- 5 Click on the Alternate Password tab (see "Create Voiceprint"). If the tab is dimmed, you probably didn't check the Allow Alternate Password check box in step 3.
- 6 Click on the Create Voiceprint button and type in the password you used in the File Sharing control panel.
- 7 When you hit the return key, the Voiceprint Setup window appears (see "Do Your Own Thing"). Click on either the Change Phrase or Continue button.



Tips, Tricks, and Shortcuts

by Lon Poole

Do you like iDisk Internet storage, available at Apple's new iTools Web site (<http://itools.mac.com>), enough to want iDisk automatically mounted at start-up? Russell Hearn of Broad Brook, Connecticut, discovered that you can set this up through Mac OS 9's Chooser. First open the Chooser window and click the AppleShare icon, and then click the Server IP Address button. In the dialog box that appears, enter **idisk.mac.com** and click Connect. In the resulting AppleShare dialog box, enter your iTools member name and password, and then click Connect. The next dialog box lists your iDisk volume. If you select the check box next to that volume's name before clicking OK, your Mac will mount iDisk whenever you start up. (If you have the Multiple User Accounts option turned on in the Multiple Users control panel, every time someone logs onto your Mac, it will try to connect to your iDisk volume. But users won't be able to mount iDisk unless they know your iTools password.)

This all works because your iDisk volume is an AppleShare server volume, similar to a shared folder on another Mac on your local network. But iDisk, unlike other server volumes, requires Mac OS 9 for password authentication. This process is necessary even though it's a bit inconvenient—it doesn't let you add your iTools member name and password to your Keychain, and you can't change your password.

An iDisk connection is limited to 60 minutes, and it could slow down your computer—especially if you have a modem connection—so put away iDisk as soon as you're done with it.

You can also mount iDisk using Mac OS 9's Network Browser, but unlike the Chooser, it doesn't let you automatically mount server volumes. However, you can make iDisk mount automatically by

putting an iDisk alias in the Servers folder or the Startup Items folder (both are inside the System Folder). If you have trouble disabling automatic mounting later, see the next item.

Multiple Log-in Attempts at Start-Up

Q. Every time I start up my Macintosh with Mac OS 9, three separate dialog boxes ask if I want to connect to the shared folder on the other

Removing the aliases will take care of the problem for now, but it's likely to crop up again unless you manually change one step in the shared-folder-connection process. Whenever you use the Chooser to connect to the folder, in the last step of the process you can check a box next to the shared folder's name. This tells the Mac to mount it at start-up. Selecting this option puts an alias in the Servers folder. If the Servers folder already contains an alias for a particular shared folder, the system creates another alias with a slightly different name. Multiple aliases for the same server volume result in multiple connection attempts during start-up or log-in.

If you want to stop all automatic server connections on a Macintosh with OS 8.6 or earlier, you'll have to use a different method. Remove the AppleShare Prep file from the Preferences folder (inside the System Folder). Then use the Chooser to reinstate the particular automatic server volume connections that you do want.



Mac on our home-office network. I have to click Cancel three times to get past them. What gives?

BOB STOFFER
Holualoa, Hawaii

A. You can fix this problem by opening the Servers folder inside the System Folder and removing the aliases of your shared folder (which is a server volume). Mac OS 9 connects to the server volumes that have aliases in this folder at start-up.

Q. When I open a Web site found with Mac OS 9's Sherlock, my Mac uses Microsoft Internet Explorer by default. How do I switch to Netscape Communicator?

DAVID C. RIPLEY
Boulder City, Nevada

A. You need to change the Default Web Browser setting at the bottom of the Web tab in the Internet control panel. (If you don't see any tabs in

continues

this control panel, click the Edit Sets disclosure triangle so that it points down.) Other applications besides Sherlock, such as the Browse The Internet application that normally has an icon on the desktop, use the Default Web Browser setting. In addition, some e-mail programs, such as Microsoft Outlook Express, use this setting for links in e-mail messages (specifically for URLs that begin with *http://*). However, the Mac does not use this setting for links to secure Web pages (whose URLs begin with *https://*) if the links are in any program other than a Web browser. The setting that controls these links is buried under the Advanced tab of the Internet control panel (see "Link to Secure Sites").

One More Shutdown Reminder

TIP Still haven't found the right way to remind yourself to turn off your monitor when you shut down—despite previous tips that suggested using a text clipping, recorded sound, or self-dismissing alert (*Quick Tips*, November 1999 and February 2000)? Chris Lambert of Toronto suggests creating a simple AppleScript application that speaks a reminder. (This requires the text-to-speech software that's normally installed



Link to Secure Sites In Mac OS 8.5 through 9, you can change the default Web browser for links to secure Web sites. To do so, set the Internet control panel's User Mode setting to either Advanced or Administration (choose Edit: User Mode to change this setting), so you can see the Advanced tab. Under the Advanced tab, click the Helper Apps icon and change the assignment for the https URL type.

as part of Mac OS 7.6 and later.) Start by opening the Script Editor program. If you have any Mac OS version between 8.5 and 9, enter the following AppleScript statement in an empty script window: **say "Don't forget to turn off your monitor!" using "Ralph"**

This script will make your Mac speak the quoted text aloud using the voice of Ralph. You can change the text as you like, and you can select a different voice.

If you're not sure which voices are available, open the Speech control panel, set its Options pop-up menu to Voice, and then check out the Voice pop-up menu.

If you have a version of the OS between 7.6 and 8.1, you can't specify the speaking voice, so you'll need to omit the last part of the statement, starting with *using*. You must also change *say* to *speak*.

Once you've finished writing the script, save it in the Shutdown Items folder. In the Save dialog box, set the Kind option to Application and turn on the Never Show Startup Screen option. **m**

LON POOLE answers readers' questions and selects reader-submitted tips for this monthly column. He is a coauthor, with Todd Stauffer, of *Macworld Mac OS 9 Bible* (IDG Books Worldwide, 2000).

All shareware and freeware mentioned in *Quick Tips* is available from the Macworld Online software library (www.macdownload.com).

We pay \$25 to \$100 for tips selected for publication that discuss how to use Macs, peripherals, or software. Please include your full name and address so that we can send you your payment. Send questions or tips to quicktips@macworld.com or to Macworld Quick Tips, 301 Howard St., 16th Fl., San Francisco, CA 94105. All published submissions become the sole property of *Macworld*. Due to the high volume of mail received, we cannot provide personal responses.

Control Panels for Limited Users

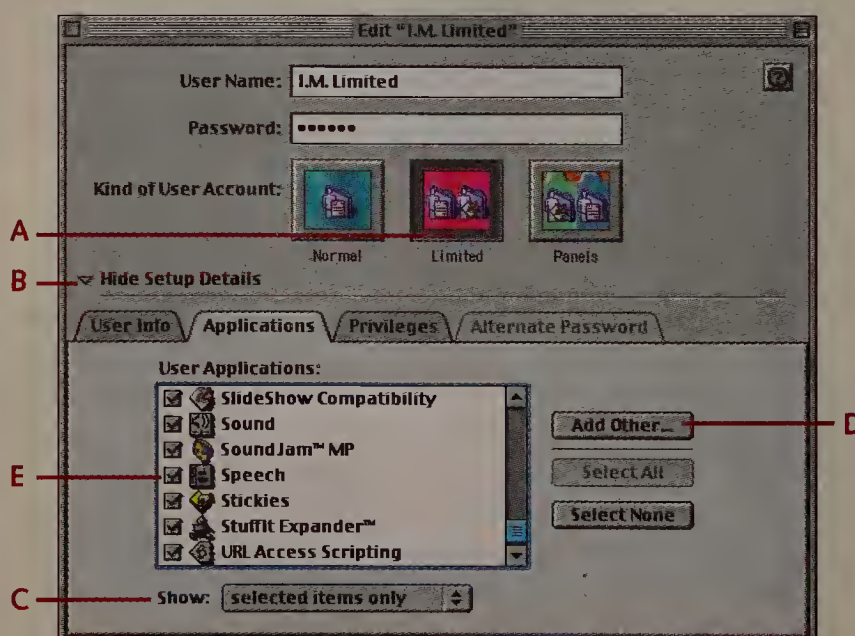
SO YOU WANT TO SET UP A LIMITED USER ACCOUNT—WITH ACCESS TO SOME CONTROL PANELS BUT NOT OTHERS—IN MAC OS 9? At first perusal, the only options in the Multiple Users control panel appear to be access to all or access to none, but Doug Steinhoff of Canyon Lake, Texas, discovered a workaround. Here's what you do.

1 Open the Multiple Users control panel and create or open a user account. Then click the Limited button (A).

2 If you don't see the setup details at the bottom of the control panel, click the triangle next to Show Setup Details (B).

3 Click the Privileges tab and turn the Control Panels option off (rather than on).

4 Click the Applications tab and choose Selected Items Only from the Show pop-up menu (C). This is important; if you choose either of the other options from this pop-up menu, this procedure won't work.



5 Click the Add Other button (D). In the dialog box that appears, select a control panel that you want to allow the limited user to access, then click Open. The selected item appears in the User Applications list (E). Repeat this step to give the user access to other control panels and programs.

The limited user will now be able to access the selected control panels through the Items folder, which normally has an alias on the user's desktop.



Technology is a playground.

[Reviews](#) [Shopping](#) [Business](#) [Help](#) [News](#) [Investing](#) [GameSpot](#) [Tech Life](#) [Downloads](#) [Developer](#)

We've come a long way since Pong created the digital playground, haven't we? On ZDNet, you'll find the biggest playground on the Web: GameSpot. It's got everything your gaming heart desires: PlayStation, N64, PC or Dreamcast. Maybe that's why the Academy of Interactive Arts named it "Entertainment Site of the Year." Or maybe it was the pictures of the real-life Lara Croft. Whatever game-thing you're into, ZDNet's GameSpot has something for you. [Visit our ZDNet to explore the technology playground.](#)

VISIT ZDNET'S GAMEPOT TO DOWNLOAD A FREE DEMO AND OFFICIAL GAME GUIDE FOR LARA'S LATEST ADVENTURE, TOMB RAIDER: THE LAST REVELATION.

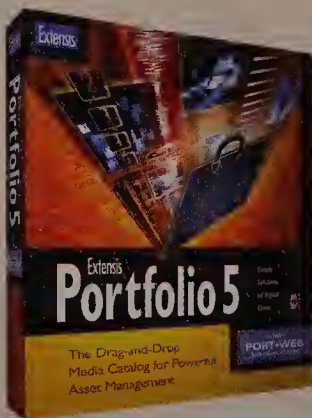
© 1998 ZD Inc. ZDNet, the ZDNet logo and Where Technology Takes You are trademarks of ZD Inc. Other products and brand names are trademarks of their respective owners. Eidos, publisher of Europe's largest publishers and developers of entertainment software. The Fox, party, level-ups and double-click are trademarks of Eidos. "Only Play" is a trademark of Eidos. Eidos is a multimedia PC markets in the U.S., the U.K., Europe and Asia. The Company is listed on the NASDAQ Stock Market under the symbol EIDOS.



www.zdnet.com



Get the monkeys off your back!



We know how it is: you've got deadlines. But every time you get the creative flow going, wham! Someone needs something. The sales rep in Sedona needs a logo, the CEO needs a two-year-old PowerPoint™ presentation, and your distributor in London wants a catalog of photos by the end of the day. It's enough to drive you bananas.

It could take hours to find those files. But with Portfolio 5 – the award winning digital asset manager from Extensis – it takes minutes. It's easy to create a catalog of the most popular files – logos, ads, presentations, audio, movies and much more. Then everyone can easily get the files they need themselves – no matter where they're located, even over the internet. So get Portfolio 5 – because it's a jungle out there!



Portfolio 5
Portfolio Server 5
Portfolio SQL Connect

Find out
more

Extensis Portfolio 5

www.extensis.com/port/mw

800.796.9798

Extensis

Copyright 2000 Creativepro.com, Inc. All rights reserved. Extensis, the Extensis logo, Portfolio, and Portfolio Server are trademarks of Creativepro.com, Inc. All other trademarks are the property of their respective owners. Extensis Products Group, 1-800-803-6921, 503.274.2020, Fax: 503.274.0530. Extensis Europe, The Netherlands, Phone +31-30-24-75050, Fax +31-30-24-12039.

PORT5MWNA010200

Scan Right and Save Time

A LITTLE EFFORT GOES A LONG WAY

by Ben Long

Though image-editing programs such as Adobe Photoshop give you extensive control over images, they can also encourage you to develop some bad habits when scanning originals. Because it's so easy to repair and edit an image, many people give short shrift to the scanning process. However, a little effort pre-Photoshop can not only yield better final images but also save the time you might otherwise spend correcting scans.

Preparing to Scan

First, choose the best material to scan. If you're planning on scanning a print but your scanner has a transparency attachment, consider scanning the original negative instead. Film negatives and slides contain much more color information than a photographic print does, affording you more latitude for color adjustments and edits. If your scanner does a better job with reflective material than with transparencies, or if the print was manipulated or corrected in the printing process, then go with the print.

Photoshop's Dust And Scratches filter does an excellent job of removing small bits of dust, fluff, and hair from an image. An even more effective solution is to clean your scanner's platen. A quick once-over with a soft cloth, paper towel, or sheet of newspaper might be all it takes to remove tiny bits of dust that can be visible in a high-resolution scan. For fingerprints, any type of glass cleaner will work, but check the scanner manual first to be sure that the platen is cleanser-safe.

Picking Places

Though you might be in the habit of laying an original anywhere on the scanner's platen, its *sweet spots* can provide sharper focus and, therefore, better detail and truer color. Scanners with particularly



large platens—legal- or tabloid-size, for example—are more prone to differences in focus quality across their scanning surface. Transparency attachments on flat-bed scanners are particularly susceptible to changes in quality from point to point. (Of course, when an image fills the entire platen, sweet spots are irrelevant.)

To test for sweet spots, select a high-quality image with good contrast, fine detail, and bright colors. Scan it several times, with the image on a different part of the platen each time. Open all the scans in your image editor and arrange the windows so you can simultaneously view the same section of each scan. Color reproduction should be the same in each scan. If you're using Photoshop, grab the eyedropper tool and check the color values of the same areas of each image. Are they the same?

If not, decide which you like best.

Next, zoom in to a high magnification on each image and look for sharpness and focusing problems. In addition to outright blurriness, check for halos of red, green, or blue that may indicate a slight focus problem.

When one image looks better, repeat the test with a different image to make sure you have indeed found a sweet spot.

If you're scanning a transparency, be sure to place the slide or negative in the scanner correctly. Most scanners require the emulsion side (the side of the slide that's less shiny) to be facedown, but check your documentation to be sure.

Defining Settings

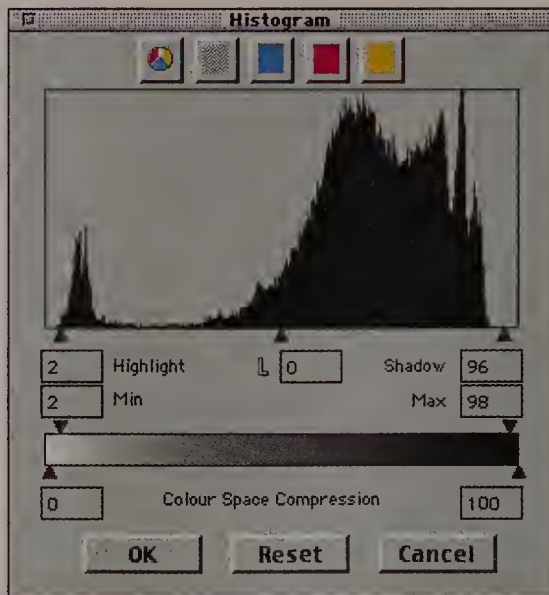
Before you hit that scan button, you need to define some settings in your

continues

software. Most scanners include some type of Photoshop-compatible Acquire plug-in that lets you scan directly into an image-editing application. If your scanner includes such a plug-in, it's a good idea to use it rather than a dedicated scanning application, simply because you won't have to switch between two programs. An Acquire plug-in may even prevent you from accidentally compressing an image as you move it from the scanning application to the image editor.

First, set your scanner to scan in color. In fact, once you've made the setting, leave it there, even when you scan a black-and-white original. Some scanners don't record as much information when set to black-and-white, so you're better off scanning in color and later converting the image to gray-scale. Photoshop does a much better job of converting a color image to black-and-white than your scanner does.

Selecting a resolution is the most important decision you'll make when configuring your scanner. Scan too low, and you'll end up with blurry details and dull color. Scan too high, and



Scanner Controls Most scanning software includes variations on Photoshop's Levels and Curves dialog boxes. Though the controls look a bit different, taking the time to learn them can result in better color reproduction.

you'll not only spend more time scanning and printing but may also have less detail in your final image. See the sidebar, "You Say You Want a Resolution," for more information.

When scanning a transparency, select negative or positive. Don't count

on your image editor to invert the image. The scanner needs to know that a negative is a negative.

Many slide scanners include *profiles* for different types of film; some even allow you to create new profiles. A profile is a description of a film type's color characteristics; scanners use the description to adjust their settings. Because different film types can have widely varying color gamuts, it's worth taking the time to choose the right profile. Check your scanner documentation for details.

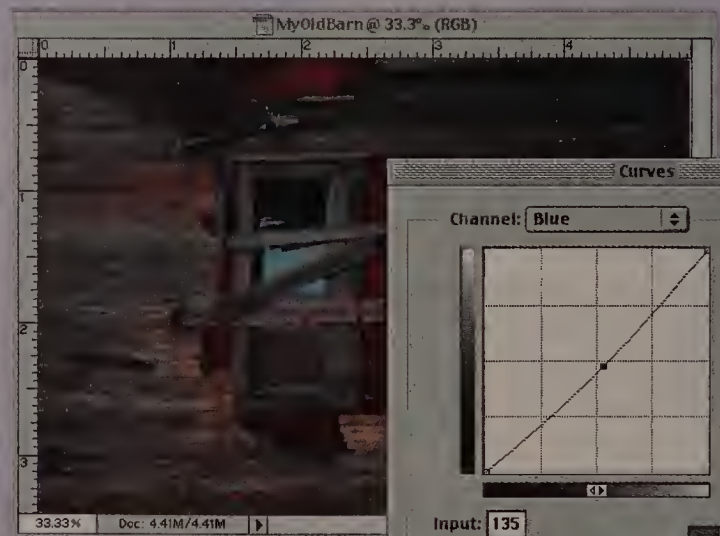
Before you scan a slide or negative using a flatbed scanner's transparency attachment, determine whether your scanner software provides focusing controls. Most drivers include automatic focusing, and though it takes longer to make the scanner check its focus before scanning, the extra time is worth it. See your manual for details.

You should also turn off any sharpening options. Sharpening is a necessary step, but you don't want the scanner to do it. For optimum quality, it's best to perform sharpening after you've made all other adjustments and edits.

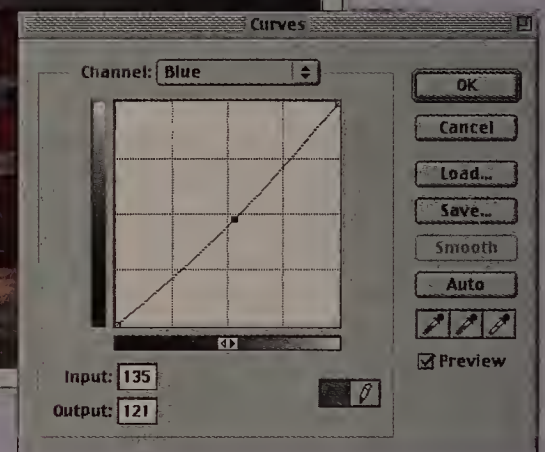
WHAT TO DO WHEN A SCAN IS TOO BLUE



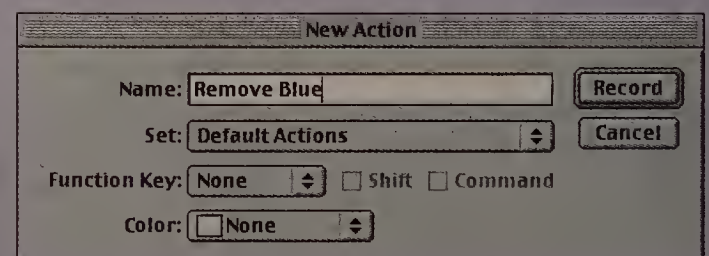
A



B



SOME SCANNERS REGULARLY PRODUCE IMAGES WITH THE SAME INCORRECT color cast. The easiest way to solve this problem is to alter the image in an image-editing application, such as Adobe Photoshop, after scanning. This image (A) is from a scanner that regularly produces images with roughly the same amount of blue cast. With a simple Curves adjustment (B), we remove the cast. By recording that adjustment as an Action (C), we can quickly apply it to any image with the click of a mouse.



C

YOU SAY YOU WANT A RESOLUTION

CHOOSING A RESOLUTION IS NOT AS SIMPLE AS IT SEEMS. The first thing to understand is that there isn't a 1:1 relationship between a dot on your screen and a dot on your printer. So though your printer may boast 1,440 dots per inch (dpi), you don't need anywhere near that resolution in your scan.

Most printers—whether ink-jet, dye-sub, laser, or offset—have only four colors: cyan, magenta, yellow, and black. Four-color printers lay down patterns of dots that we perceive as other colors when we view them from a distance (see “True Colors”).

By contrast, each pixel on your computer screen can be any one of 16 million different colors (assuming your monitor is set to display that amount).

So your printer might reproduce one dark-blue pixel on the screen by creating a pattern of dozens of cyan, magenta, and yellow dots. High-resolution printers can use even more dots, but they still represent that *one* pixel on your computer screen. The higher printer resolution just means you're less likely to see the individual dots making up the patterns that represent colors.

If the resolution of your file is too low, the printer doesn't have enough data to accurately print detail and color. But if your image resolution is too high, the computer must throw out data, or downsample, before it sends the image to the printer. Downsampling can result in a loss of sharpness and detail, so you should control it when possible. Select a resolution that will provide enough data to create a good image but not so much that the computer will average detail away upon printing.

If your image's destination is an offset press, you need to know the frequency of the *halftone screen* the printer will use before you can choose the best image resolution. This halftone frequency is usually measured in lines per inch (lpi). Magazines and most

good-quality commercial print jobs are usually printed with a halftone frequency of 133 lpi. If your image's final destination is newsprint or photocopies, the printer will probably use a halftone frequency of around 85 lpi.

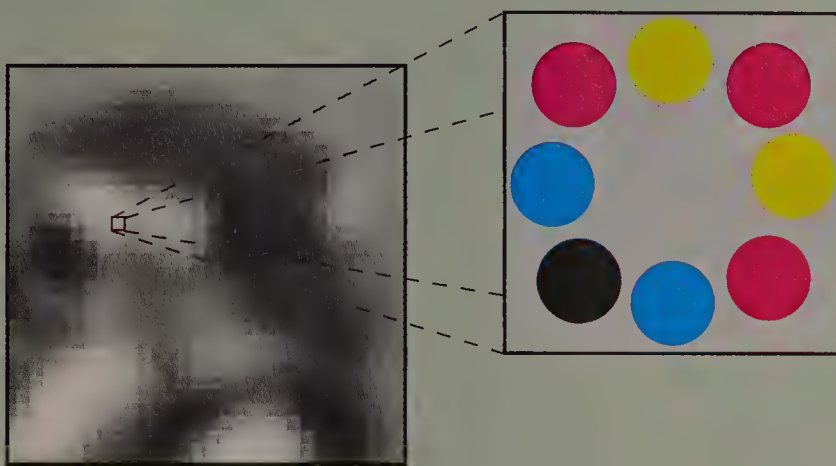
Many people recommend scanning at a resolution that's twice your final line screen. That means 266 dpi for an image that's destined for a 133-lpi print job. We think it's better to go even lower—around 1.25 to 1.5 times the line screen—to ensure your image doesn't downsample so much that it loses sharpness.

If your image is destined for a desktop ink-jet printer, 200 dpi is usually all you'll ever need. This resolution also works well for laser printers, though you can often go as low as 150 dpi with them.

If your image is headed for a large-format printer, rules for choosing a resolution are mostly the same as those for desktop and commercial printers. Because you're printing something that's, say, 3 feet wide and 5 feet long, you may think you need a superhigh resolution, but you don't.

Large-format-printer drivers include special algorithms for scaling images up, and most do wonders with relatively low-res images. We've successfully printed 8-by-10-inch 300-dpi images at massive sizes with excellent results. Consult your service bureau for the nitty-gritty.

Scanners that can capture 600 or 1,200 dpi give you the ability to enlarge an image. Say you've got an image that's 2 inches square and you want to print it at 6 inches square on your desktop ink-jet printer. Because you want to have a final resolution of 200 dpi (the ideal ink-jet resolution), you should scan at 600 dpi. In an image editor, you can resize the 2-by-2-inch 600-dpi image to a 6-by-6-inch 200-dpi image with no loss of data and no interpolation.



True Colors One pixel in an image does not equal one dot on the printed page. A printer uses many dots of ink for each pixel in an image. When a printer manufacturer claims 1,440 dots per inch, it means printer dots, not image pixels.

Using Those Extra Bits

Each pixel that makes up a full-color digital image is composed of 24 bits of color data. So why are there 30-bit and 48-bit scanners? The additional bits may seem like marketing hype, but they can actually provide a more accurate image—if you use the scanning software properly.

You can take advantage of those extra bits by using the scanning software, whether it's stand-alone or a Photoshop-compatible plug-in. Like Photoshop, the scanning software has controls for adjusting color, contrast, and levels. However, your computer is limited to 24 bits of color, while scan-

ners can often process color at greater bit depths. When you use the scanner software's color controls, it makes adjustments using its larger color space (see “Scanner Controls”); it then downsamples the images to 24-bit color. Why bother with the scanner software when the images end up at 24 bits? Because those extra bits make possible more-precise calculations and finer color-correction control.

As in Photoshop, when your scanner software offers a choice of adjustment types—levels versus simple brightness and contrast adjustments—always use the levels controls. With the less precise

brightness and contrast sliders, you may inadvertently change an image's whites and blacks. Levels controls let you adjust contrast while preserving white and black points.

Performing good color correction takes practice, but some general advice can help—whether you're using scanner software or a stand-alone image editor:

- An image has three basic color categories: highlights, shadows, and midtones. When you see that color is off in an image, determine which of these categories suffers the most. For example, a typical portrait is mostly midtones, with

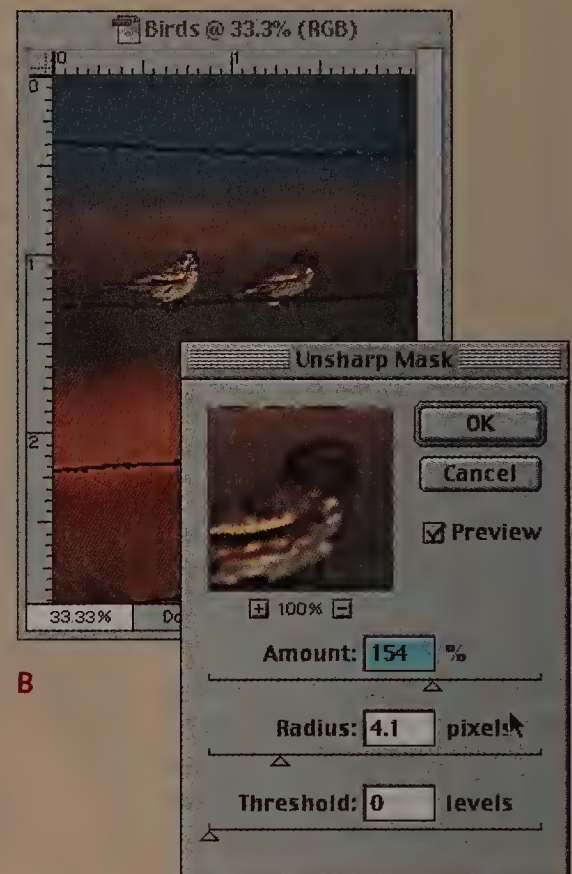
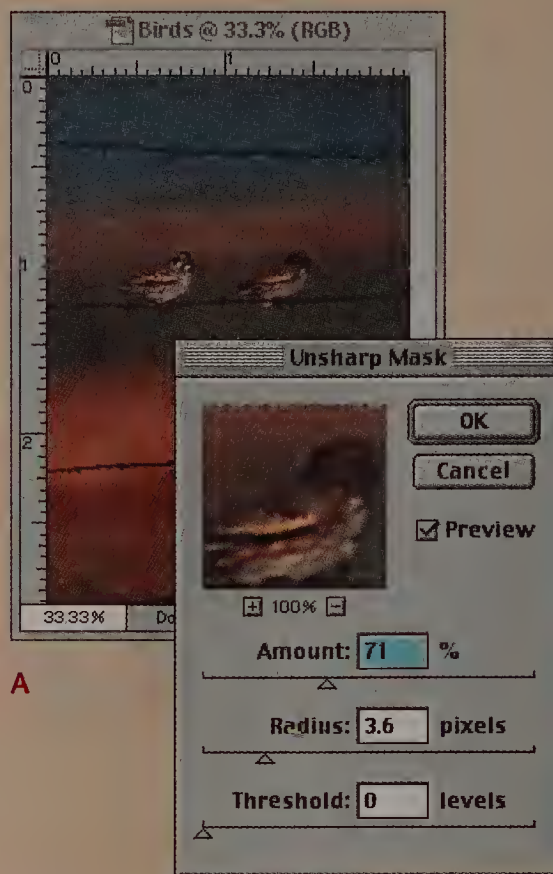
continues

BRING SCANS INTO FOCUS

ALTHOUGH SCANNING CORRECTLY saves you a lot of trouble, there are some problems you can't avoid. For example, even the best of desktop scans are less sharp than the original photographs. In these cases, an image editor's sharpening feature can help restore what was lost. Photoshop's Unsharp Mask filter (under the Sharpen submenu in the Filter menu) is a popular choice.

Properly applied (A), the Unsharp Mask filter improves the appearance of a fuzzy photo. But if you over-sharpen (B), colors alter and artifacts such as the halo around the bird's head appear.

One cautionary note: Be sure to wait until you've performed all other edits before applying sharpening.



dark shadows spread here and there and highlights on the hair, nose, or glasses. If the portrait has a green cast, correct mid-tones first.

- Once you've corrected the central problem, touch up problems in other categories. In the previous example, after you'd removed the greens from the mid-tones, you would work on the highlights and then on the shadows.

- Be sure to check the balance of all three categories—adjusting one range of colors sometimes affects the others.

One caveat: If you're preparing images for the Web or a device with a limited gamut, this kind of color control can be overkill.

Saving Time, Saving Files

So you've meticulously tweaked Levels and Curves adjustments and maniacally calculated just the right resolution. Now it's time to preserve those settings. If you shot a number of pictures in the same location, there's a good chance that they'll need roughly the same color correction and adjustments. If your scanner software can't save settings as a file, you should at least write them down. If you changed locations, film stock, or lighting from one picture to the next, you'll probably have to start from scratch and build new settings.

After you scan an image, save it as a

TIFF or PSD file, no matter how you plan to use it. Though the file may be bound for the Web, Web-ready JPEG and GIF files are *lossy* formats—that is, they degrade image quality—so you shouldn't convert to either GIF or JPEG until you perform all edits. And don't throw out your original scan after the conversion. If you make changes later, perform the edits in the original and then convert to JPEG. Resaving JPEG files removes even more data.

Postprocessing

Scanning can introduce some annoying artifacts. If the original is a halftone image from a book or magazine, there's a good chance that moiré patterns have crept in. An image editor's Despeckle filter should remove them in one or two passes. Your scanning software may include descreen functions. Experiment with these to see whether they remove the moiré without oversoftening the image.

Some scanners produce images with distinct color casts. You can usually remove the cast using a simple Curves adjustment in an image-editing program. If your scanner routinely produces the same color cast, consider building an Action in Photoshop that performs the appropriate adjustment (see "What to Do when a Scan Is Too Blue").

Save sharpening for after you resize the image and convert it from RGB to grayscale. Be sure to use an Unsharp Mask filter rather than a raw Sharpen filter. Unsharp masking produces images with smoother contrast and without oversharpened halos (see "Bring Scans into Focus"). For more on sharpening, see "Sharper Images in Photoshop," *Create*, April 2000.

It's easy to get crooked scans from flatbed scanners. Fortunately, Photoshop's Measure tool provides a simple way to straighten an image. In your image, find a line that should be horizontal. Select the Measure tool, and click on both ends of that line. Then select Rotate Canvas: Arbitrary from the Image menu. The resulting dialog box automatically displays the amount of rotation required to straighten your image. Click on OK, and the image is straightened.

Not a Toaster

With scanners as inexpensive as household appliances, it's tempting to treat them the same way. However, scanning isn't yet as routine as making toast. Be mindful when you scan, and you can get better results from a low-end scanner than others could with a more expensive device. **m**

BEN LONG is a freelance writer and illustrator in San Francisco.

Fireworks' New Moves

EXPAND YOUR ANIMATION HORIZONS WITH VERSION 3

by Sandee Cohen

As a longtime print person—and a New Yorker—my motto used to be “If it moves, step on it.” But that was before I discovered the joys of GIF animations. Seeing my artwork move, fade, and change appearance was thrilling. I even started watching the Cartoon Network to pick up animation tips.

But despite the pleasing results, creating those first animations was no picnic. I used Macromedia Fireworks 1, which required a cumbersome set of steps to set up an animation and couldn't play files without opening a special Export dialog box. Fortunately, Fireworks 3 is a powerful, sophisticated tool that makes it easy to turn artwork into animations.

Fireworks' Frames and Layers

Fireworks is a frame-based program; an animation is composed of any number of frames, each displaying a slightly different image. The concept is similar to a flip-book—an object changes from page to page (or from frame to frame) to create the illusion of movement. (Adobe After Effects and Macromedia Flash are timeline-based, which makes them much more powerful than frame-based animation programs, but harder to understand and use.)

Fireworks also uses layers. As in Adobe Photoshop, layers control the vertical stacking of objects in a file. In Fireworks, you can have several layers in each frame, and you can change each layer's content and visibility. If, for example, you want to make the word *help* blink on and off, you can place it in layer 1 of all frames but make that layer invisible in alternating frames. By hiding the layer rather than deleting it, you have the option of changing it later if you—or a willful client—opt for a different look. You can share a layer across frames either manually or automatically.



The Power of Tweening

You can produce animations by manually placing an object on each frame and changing its position by hand, but it won't take long for your patience—and your mousing hand—to give out. It's much easier to take advantage of Fireworks' *symbols* and *instances*.

Any object can be a symbol—you simply select it and choose Insert: Symbol. This designates it the master or parent of all copies—called instances—of the object. Rather than copy and paste an object onto each frame, you can use the Tween Instances command to distribute instances automatically across frames.

That's useful enough, but Fireworks' tweening capabilities go even further. Using the Tween Instances command, you can also fill in the steps between two instances. Say you place one instance of a

floral bouquet in a frame's bottom left corner and another instance in the next frame's top right corner. Tween the two instances, and Fireworks adds frames between them that show the flowers gradually moving from corner to corner. (See the sidebar “Animate with Symbols.”)

Animation Looks Lively

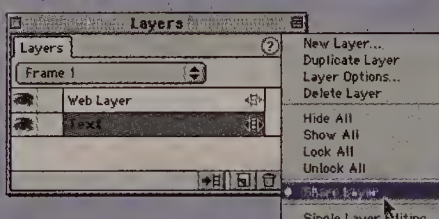
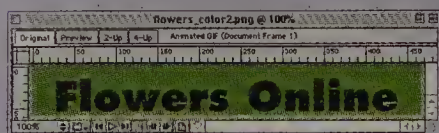
You can tween a wide range of symbol attributes in Fireworks 3. Just as you made the flower instances move from corner to corner, you can animate differences in the size, rotation, and skew of two instances. You can also alter their opacity so that, when you tween them, an object appears to fade in or out.

Fireworks 3 features Live Effects that offer new opportunities for animation. Drop shadows can move, glows can fade

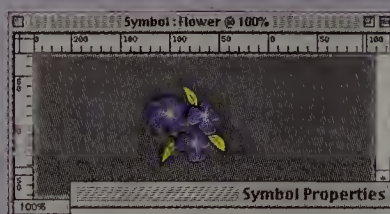
continues

Animate with Symbols

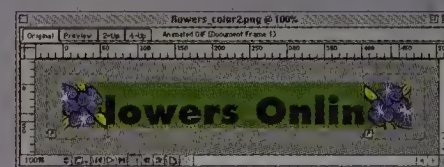
FIREWORKS' SYMBOLS AND INSTANCES MAKE IT EASY TO CREATE ANIMATIONS. HERE, I SHOW YOU HOW TO ROTATE AN OBJECT. (For the final animated GIF, see www.macworld.com/2000/05/create/.)



1 Put the object that will appear on all frames on its own layer, and choose Share Layer from the Layers palette's pull-down menu.

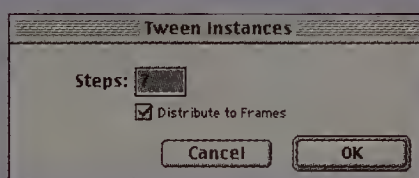


2 Create a new layer to hold the objects you will be animating; then choose Insert: New Symbol. Name the symbol in the Symbol Properties dialog box, and then paste existing artwork into the Symbol window or create it directly in that window.



3 Close the Symbol window. An instance of the symbol automatically appears in the main window. Position this instance where you want the animation to start. Copy the instance and position the copy where you want the animation to end. Select the second instance and go to Modify: Transform: Rotate 180 Degrees.

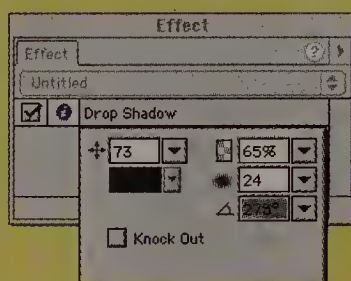
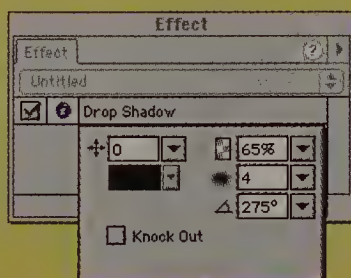
4 Select the two instances and choose Modify: Symbol: Tween Instances, then set the number of steps. Select Distribute To Frames to put all the intermediate steps on their own frames. The tweened instances fill in the spaces and rotate the flower.



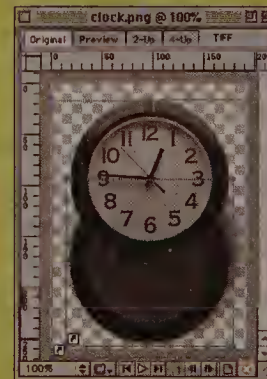
Animate a Live Effect

FIREWORKS EFFECTS SUCH AS DROP SHADOWS AND BEVELS AREN'T JUST FOR STILL IMAGES ANYMORE. FOR EXAMPLE, you can animate an object to make it look like it's moving toward the viewer as its shadow moves away. (For the final animated GIF, see www.macworld.com/2000/05/create/.)

1 Create an instance of an object, open the Effect palette, and go to the Shadow And Glow drop-down menu to set the instance's Drop Shadow distance to 0. (Although you can't see the shadow at this setting, you have to apply an effect to both instances for tweening to work.) Copy the instance onto a new frame and set its Drop Shadow to 73, the final distance.



2 Select both instances and go to Modify: Symbol: Tween Instances. Enter a number of frames appropriate for the effect you want. The new instances fill in the intermediate distance settings for a moving-shadow effect.



in and out, instances can go in and out of focus, and objects' hues can change. (See the sidebar "Animate a Live Effect.") You can even apply Photoshop filters to instances for unusual, artistic animations. (See the sidebar "Animate Photoshop Filters.") For a different effect, import blends from Adobe Illustrator or Macromedia FreeHand to simulate one shape morphing into another. (See the online sidebar, "Morph Shapes from Vector Objects," at www.macworld.com/2000/05/create/.)

Automatic Animation With Fireworks 3, you can speed up the animation process by automating steps with JavaScript commands. There are two ways to create these commands. The first is to use Fireworks' History panel to record your actions and then save them as a command. This method has a limitation: if you want to repeat a command several times, you must manually record each repetition in the original history. (See the online side-

bar, "Study Animation History," at www.macworld.com/2000/05/create/.)

Fortunately, if you're not afraid of a little JavaScript programming, you can whip up a command without having to add every frame and go through each action manually. Several commands ship with Fireworks (just look in the program's Commands folder), and you can modify these in a word processor. Say you open the command that adds 12 frames and rotates an object 30 degrees. The phrase `// Add frames for the animation` `var kNumFrames = 12;` in the command tells the application to add 12 frames to the animation. To add a different number of frames, simply change the number. The phrase `var angle = 30;` controls the size of the rotation. Change the 30 to, say, 10, and you set the rotation to 10-degree increments.

Once you've modified an existing command, save it as a text-only file and

place it in Fireworks' Commands folder. The modified action now appears under the Commands menu.

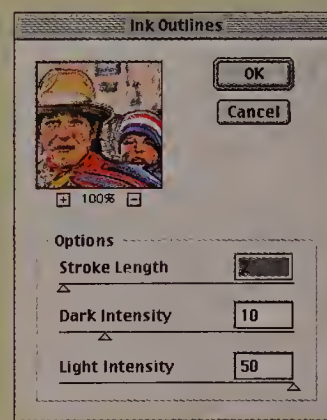
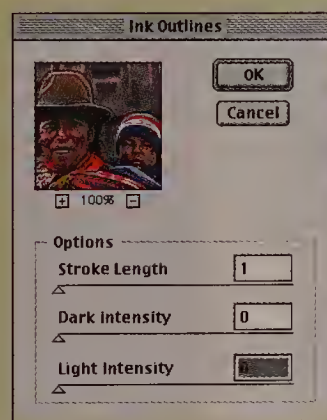
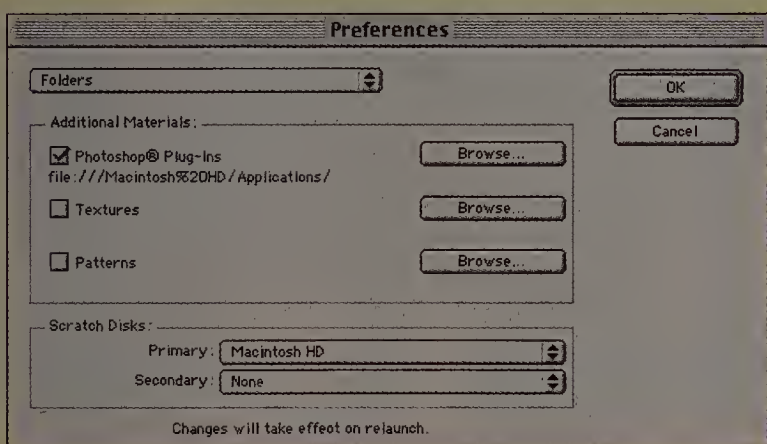
You may not have to dip into JavaScript at all. Many people create commands and post them for others to use. Check out Massimo Foti's www.massimocorner.com and Kleanthis E's <http://projectzero.webhostme.com> for a bevy of prewritten commands.

Although Fireworks has come a long way, there's still room for improvement. For example, unlike Flash 4's, its tweened animations aren't live: to change a first or last instance, you have to re-create the entire animation. But Fireworks 3 does provide Web animators with an impressive array of well-designed tools. **m**

SANDEE COHEN is the author of *Fireworks 3 Visual Quick-Start Guide* (Peachpit Press, 2000) and a frequent speaker at Thunder Lizard conferences and Seybold seminars.

Animate Photoshop Filters

IN FIREWORKS 3, YOU CAN APPLY PHOTOSHOP FILTERS AS LIVE EFFECTS AND ANIMATE THEM. (FOR THE FINAL animated GIF, see www.macworld.com/2000/05/create/.)



1 Start with a bitmap image. Make it a symbol, and copy an instance of that symbol to a frame. Use Fireworks' Preferences dialog box to point to the Photoshop Plug-ins folder, which adds the plug-ins to Fireworks' Effect panel. (A few filters, including Lighting Effects and Twirl, don't work in Fireworks and won't appear in the Effect panel.)

2 Choose a Photoshop filter and apply it at a very low setting to the instance of the image. In this example, I've applied the Ink Outlines filter to the image. Duplicate this instance and change the filter to a higher setting.

3 Tween the two instances and distribute the intermediary instances to frames. The resulting animation looks like a photograph changing into a sketch.



Create

GRAPHICS

Designs with a Difference

PHOTOSHOP'S DIFFERENCE MODE GETS A MAKEOVER

by Cathy Abes

You can get startling, even psychedelic effects in Adobe Photoshop by using that program's blending modes, which determine how color information on two different layers interacts when you combine the layers. Some blending modes—like the aptly named Normal—produce fairly ordinary results, while others give you a radically changed image. One of the most popular is Difference mode, which produces highly saturated color. The problem with using such a popular mode, though, is that its effects are so predictable, they're easy to spot in an illustration.

Graphic designer and photo-illustrator Alicia Buelow is an ardent fan of Difference mode, but she doesn't like the idea of using a one-effect-fits-all mode, as it's likely to make her illustrations look too much like someone else's. And while she appreciates the dramatic effects this mode provides, she doesn't like what she considers its colorful excesses. She gravitates toward a palette of earth tones rather than the intense blues and greens characteristic of Difference. Fortunately, Buelow found a way to make Difference behave differently. She devised a technique involving copying and pasting images that lets her tone down the mode's effect (see Step 4).

Buelow designed *Ascendence* as a self-promotional piece, using Photoshop 5.5 on a 333MHz Power Mac G3 with 256MB of RAM. She's a former Adobe employee who has worked with Photoshop and Illustrator since the early days of both programs. **m**

CATHY ABES, author of *Photoshop F/X* (Ventana Press, 1994) and formerly an editor at *Macworld* and *Publish*, has been writing about graphics and publishing for more than ten years.



A Subtler Difference After undergoing some judicious customizing, the image of the crow retains the dramatic effect produced by Difference mode, while taking on an earthier color palette.

1 After creating a background, Buelow pieced together the crow image from three photos (two of her own and one stock photo) and added it to a layer on top of the background. She made the crow image a single color by selecting Colorize in the Hue/Saturation dialog box. To make the crow blue so it would stand out against the brownish gold background, she moved the Hue slider about half-way to the right.



2 Buelow inverted the crow layer (Image: Adjust: Invert) and then applied Difference blending mode at 100 percent opacity. Inverting the crow image before applying Difference mode produced a more dramatic effect than if she had used Difference mode alone.



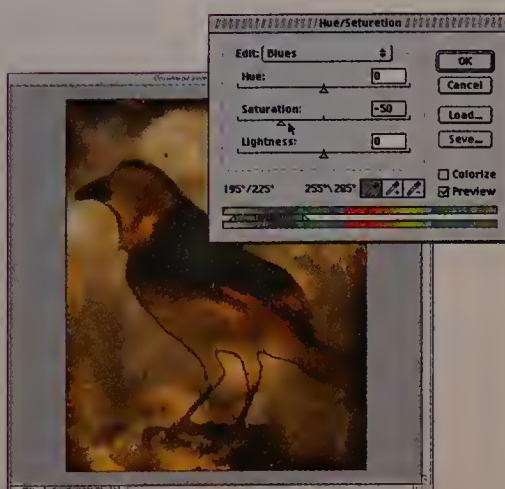
3 The next step was to get a psychedelic effect that she could later tone down. To do so, Buelow selected the crow layer, duplicated it, and merged the duplicate and the original with both layers set on Difference blending mode. As she expected, the result was an overly saturated and unnatural-looking bird, but one with some desirable effects.



4 Once you set a layer to Difference mode, you can't get rid of the saturated colors without losing the high-contrast effect. Buelow devised a way to work around that limitation. To begin, she saved a copy of the image as a flattened Photoshop file by checking the Flatten Image check box in the Save A Copy dialog box. With the layered image still open, Buelow opened the flattened image and selected the crow by going back to the layered image, choosing the marquee tool, and ⌘-clicking on the icon of one of the crow layers. Then she clicked inside her selection with the marquee tool and dragged the selection over the crow in the flattened image. When she let go, the crow in the flattened image was automatically selected. Finally, she copied and pasted the crow from the flattened image into the layered image.



5 Now that Buelow had an image that looked like it was in Difference mode but was actually in Normal mode, she could select that image's layer and adjust colors (in the Hue/Saturation dialog box) without losing the high-contrast effect.





MARK YOUR CALENDAR

july 18-21, 2000

macworld expo/new york
jacob javits convention center
pre-conference workshops - july 18, 2000
conferences and exhibits - july 19-21, 2000

MACWORLD EXPO/NEW YORK: WHERE THE ULTIMATE IS POSSIBLE

You're a Mac user. You think outside the box. You see challenges, not limits.
You're pushing the envelope of today's hot technologies.

MACWORLD EXPO/NEW YORK is your ultimate experience as a Mac user. The exhibit floor is packed with thousands of radical new software solutions, games and peripherals for your Macintosh. The conferences explore the frontiers of Mac computing while offering easy-to-implement solutions to today's challenges. And MACWORLD Expo is the only event where you can share ideas with nearly 45,000 other hip, forward-thinking Mac users.

Visit

**www.macworldexpo.com
for more information!**

THE EAST COAST'S BIGGEST SELECTION OF MAC TECHNOLOGY

The awesome success of the new generation Macs has inspired developers to turn their creativity loose on the Mac OS. What results! Come to MACWORLD Expo for a huge selection of products you simply won't be able to live without. Discover software tools that let you perform time-consuming tasks in simple new ways. Test-drive new technologies that let you explore the outer reaches of Mac performance. See how the latest FireWire™ devices and Universal Serial Bus (USB) peripherals expand the functionality of your Mac. And have some fun! Games are on the Mac like never before, from Mac versions of best-sellers to Mac-only titles.

**new york city
jacob javits convention center
july 18-21, 2000**

800.645.EXPO

www.macworldexpo.com

PRE-CONFERENCE WORKSHOPS
July 18, 2000

CONFERENCES AND EXHIBITS
July 19-21, 2000

SAVE MONEY WHEN YOU BUY ON THE EXHIBIT FLOOR Looking to find the ultimate bargain for your Macintosh? When you shop at MACWORLD Expo you get so much more than you'd ever find in a computer store or catalog. It goes without saying, the selection is enormous and the products are cutting-edge. More importantly, you get a chance to talk directly to developers and vendors. Ask tough questions, put the products through their paces, then strike a great deal. You can make purchases right on the show floor—from the latest releases, to that application you meant to buy last year!



www.macworldexpo.com

SPECIAL INTEREST ENVIRONMENTS TARGET THE PRODUCTS RIGHT FOR YOU

MACWORLD Expo offers so much for every Mac user, from Web Masters to school teachers, filmmakers to entrepreneurs. Check out the Special Interest Environments while you are exploring the exhibit floor to find and compare hot new products for your particular needs. Visit these hands-on demonstration areas to learn how to customize your Mac to meet the demands of your career and interests.

EXPAND YOUR KNOWLEDGE BASE AT THE CONFERENCES AND WORKSHOPS Learn from industry experts and luminaries who are shaping the future of Mac computing. The MACWORLD Expo conferences and workshops offer top-notch education for everyone who wants to do more with a Mac. If you're just starting out with your Mac, you'll find entry-level courses to increase your productivity and ease your frustrations. If you're a high-level user, MACWORLD Expo offers sessions to keep you current with the latest technological advances. These two highly acclaimed conferences and workshops are sure to educate, entertain and empower you and your Mac!

new york city
jacob javits convention center
july 18-21, 2000

Visit

www.macworldexpo.com
for more information!

Sponsored by:



Macworld

macCENTRAL.com

MacWEEK.com

MacBuy.com

Managed by:



Ad Code:

MCD

Have Fun, Win Prizes!

As you're strolling among the hundreds of product displays, try your hand at the Macintosh Gaming Championships' — there's more than \$25,000 of prizes to be won. Are you a starving artist? Get your work noticed by entering the Digital Art Competition. Visit www.macworldexpo.com for details on how to enter.

www.macworldexpo.com

FIVE WORDS. IT'S ABOUT TIME.

THE
Webby
AWARDS

At the Webbys, acceptance speeches are limited to five words or less.

"I'd like to thank..." Oops. That's four words right there. Brevity is the soul of wit, and the 4th Annual Webby Awards will have plenty of both. See which of your favorite sites win, and hear the most creative (and shortest) acceptance speeches around.

The Webby Awards will be webcast live from San Francisco on May 11, 2000. For more information, go to www.webbyawards.com.

"Forget the Oscars, Here come the Webbys" —New York Times



Adobe



Warburg Dillon Read



vivid studios

PRICEWATERHOUSECOOPERS



Macworld



FLEISHMAN
HILLARD

Entertainment



Balloting audited by PricewaterhouseCoopers

INDEX TO ADVERTISERS

Interact with the companies whose products and services are advertised in **Macworld**

ADVERTISER	INTERACT	PAGE NO.	ADVERTISER	INTERACT	PAGE NO.
Activision	www.activision.com	75	J&R Computer World	800-221-8180	141
Adaptec	www.adaptec.com/mac	37	Kensington	www.kensington.com/imac	C4
AEC Software	www.aecsoft.com	14	La Cie	www.lacie.com	84
Alsoft	800-257-6381	10	MacMall/Creative Computers	800-222-2808	120-127
American Power Conversion	888-289-APCC ext.8823	45	MacSoft	www.gtstore.com	60
Anthro	www.anthro.com	12	MacWarehouse	800-434-3035	111-119
Apple Computers	—	1	MacZone	www.maczone.com	128-135
APS Technologies	800-285-0638	136-137	Megahaus	800-786-1184	142
Asante	www.asante.com	69	MicroMat	800-829-6227	26
Canon, Inc.	www.CCSI.CANON.COM	59	Mitsubishi Electronics, Inc.	800-843-2515	15
Canon, Inc.	www.CCSI.CANON.COM	2,3	Office.com	—	63
Canon, Inc.	www.CCSI.CANON.COM	4,5	Orange Micro	714-779-2772	48
CDW Computer Centers, Inc.	800-509-4239	138-139	Orange Micro	714-779-2772	56
Connectix	www.connectix.com	39	OTT-Lite Technology	800-842-8848	58
Creativepro.com	www.creativepro.com	47	Palm Computing	www.palm.com	11
Creativepro.com	www.creativepro.com	96	Par Technologies/iRez	www.irez.com	53
Crucial Technology	www.crucial.com	24-25	PowerOn	www.poweronsw.com	57
Diehl Graphsoft	www.diehlgraphsoft.com	22	ProDirect	800-434-4032	140
Epson America	—	20-21	Scitex	800-579-9452	73
Focus Enhancements	—	55	Sonnet Technologies	800-786-6260	90
GCC Technologies	www.gcctech.com	8-9	TechWorks	800-434-4032	51
Getty Images	www.gettyone.com	41	Viewsonic	800-888-8583	49
Handspring	www.handspring.com	19	VST Technologies, Inc.	www.vsttech.com	13
Hewlett Packard	—	32-33	Wacom	800-922-2585	43
Hire Knowledge	www.hireknowledge.com	16	XANTE Corporation	www.xante.com	C3
Infowave	800-817-9158	31			
Intego, Inc.	www.intego.com	83			

PRODUCT INDEX

Looking for a specific product? Simply use *Macworld's* product index to find the page or the advertiser of the products which interest you. Then simply log on at www.macworld.com/getinfo and receive all the product information you need.

PAGE NO.	ADVERTISER	GET-INFO	PAGE NO.	ADVERTISER	GET-INFO
----------	------------	----------	----------	------------	----------

HARDWARE

COMPUTER SYSTEMS

C2-1	Apple	-
120-127	Macmall/Creative Computers	131
13	VST Technologies, Inc.	73

HARD DISK STORAGE

136-137	APS Technologies	62
84	La Cie	-
142	MegaHaus	107
15	Mitsubishi Electronics America	261
140	ProDirect	135

MISCELLANEOUS

45	American Power Conversion	72
24-25	Crucial Technologies	-
19	Handspring	-
C4	Kensington	1
58	OTT-Lite Technology	42
11	Palm Computing	-
51	Techworks	29
43	Wacom Technology Corp.	84

MONITORS/GRAPHICS BOARDS

37	Adaptec	-
56	Orange Micro	60
48	Orange Micro	60
90	Sonnet Technologies	132
49	ViewSonic	-

NETWORKING PRODUCTS

69	Asante Technologies	130
----	---------------------	-----

PRINTERS

2-3	Canon Computer Systems, Inc.	23
20-21	Epson	88
8-9	GCC Technologies	43
32,33	Hewlett Packard	11
C3	Xante Corporation	112

SCANNERS & DIGITAL CAMERAS

4-5	Canon Computer Systems, Inc.	23
53	Par Technologies/iRez	143
73	Scitex	12

MAIL ORDER

136-137	APS Technologies	62
138-139	CDW Computer Centers, Inc.	2
141	J&R Computer World	56
120-127	Macmall/Creative Computers	131
111-119	MacWarehouse	18
128-135	MacZones	71
142	MegaHaus	107
140	ProDirect	135

SERVICES

INTERNET PRODUCTS/SERVICES

55	Focus	172
16	HireKnowledge	97
83	Intego, Inc.	85
63	Office.com	149

SOFTWARE

BUSINESS/PRODUCTIVITY

14	AEC Software	83
22	Diehl Graphsoft	46

CLIP ART & FONTS

41	Getty Images	-
----	--------------	---

ENTERTAINMENT

75	Activision	24
----	------------	----

ENTERTAINMENT

60	MacSoft	29
----	---------	----

GRAPHICS/DTP

47	Creativepro.com	14
96	Creativepro.com	14

UTILITIES

10	Alsoft	140
39	Connectix	105
31	Infowave	32
26	MicroMat	-
57	PowerOn	118

ACCESSORIES

FURNITURE

12	Anthro	-
----	--------	---

Free!
64MB RAM
UPGRADE!

MacWAREHOUSE®

Your #1 Source for Mac™ Systems and Products—since 1987!

9 PAGES PACKED WITH GREAT MAC DEALS!

on all Power Mac G4s,
PowerBooks, iBooks and iMac DVs!
*After rebate. Installation fee required. Does not
apply to reconditioned models.



NEW! Apple Power Mac G4s

**Up to
500MHz!**

Only
\$3499!

Item #CPU1576

Lease It! for \$102/mo*

- 500MHz PowerPC G4
- 256MB SDRAM
- 27.0GB Ultra ATA/66 HDD
- 5.2GB DVD-RAM with DVD-Video Playback
- Three FireWire® ports
- Zip Drive

See page
2 of 9

NEW! Apple PowerBook G3s

Only **\$3499!**

Item #CPU1581

Lease It! for \$102/mo*



**Up to
500MHz!**

- 500MHz PowerPC G3 • 128MB SDRAM
- 12.0GB Ultra ATA/66 HDD
- DVD-ROM • 2 FireWire ports
- Optional AirPort support
- 56K modem

See page
7 of 9

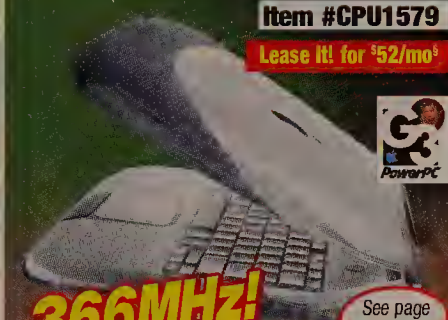
NEW! Apple iBook Special Edition

Cool
Graphite
Color

Only **\$1799!**

Item #CPU1579

Lease It! for \$52/mo*



366MHz!

See page
8 of 9

- 366MHz PowerPC G3 • 64MB SDRAM
- 6.0GB Ultra ATA HDD • 24X max. variable CD-ROM • 56K modem
- 12.1" Active-Matrix Display

APPLE iMAC G3

Blueberry
only **\$799!***

Item #RCPU1336

- 333MHz PowerPC G3 processor
- 32MB RAM (256MB max.)
- 6.0GB hard drive
- 24X max. variable CD-ROM
- Built-in 15" color monitor
- 56K modem
- Available in all 5 colors

See page
8 of 9

*Product is reconditioned by an Apple Authorized Service Provider. Reconditioned computers may not include original application software. 90 day parts and labor warranty. All sales final. While supplies last. Free memory offer does not apply.

Many other reconditioned
Apple systems available.
See page 8 for details.

EPSON STYLUS COLOR 740

Only
\$99.95!*

Item #PR14065

- 1440 x 720 dpi
- USB and Mac serial compatible
- 6ppm black/5ppm color
- Smaller ink drops for amazing detail

*Price before manufacturer's mail-in rebate is \$149.95 - \$50 rebate = \$99.95. Rebate coupon and full details available at www.warehouse.com/rebate/epson or call us at 1-800-390-0706. Offer expires 7/31/2000.

Leases are available to business customers with approved credit on product orders where at least one product totals \$750 or more. Payments are based on a 48-month Lease. Leasing terms subject to change without notice. Call for complete details.

APPLE MAC OS 9

Only
\$69.95!* after \$30 in rebates.

Item #SYS1012

- Sherlock 2 - Your Internet detective, and personal shopper.
- Voiceprint - Your voice is your password.

For more information visit: www.warehouse.com/mac09.

*Price after Apple \$20 mail-in upgrade rebate and MacWarehouse \$10 mail-in rebate. Before rebates: \$99.95. Apple rebate requires proof of ownership for OS 8.5, OS 8.51 or OS 8.6. Rebate coupon in box. Offer expires 5/1/2000. MacWAREHOUSE rebate limit one per customer (or 5 per customer site.) MacWAREHOUSE rebate coupon available at www.warehouse.com/rebate/applesoftware or call us at 1-800-390-0706. Not to be combined with other MacWAREHOUSE offers. Rebate expires 5/1/2000.

SONY MAVICA FD-91 DIGITAL CAMERA

Only
\$999.95!

Item #IN7502

- 14X optical zoom
- 2.5" Color LCD
- Auto flash
- 1024 x 768 ppi resolution
- 3.5" floppy disk storage



SONY

Free! 400MHZ iMAC DV 64MB RAM

after rebate.
Installation
fee required.

Ask for item
#AAP1115
and #INSTL10.

- 400MHz PowerPC G3 Processor • 64MB of SDRAM (exp. to 512MB) • 512K Backside Level 2 Cache • 10.0GB Ultra ATA HD • 4X (max.) DVD-ROM drive • Built-in 56K V.90 modem

Blueberry: item #CPU1493
Grape: item #CPU1494
Lime: item #CPU1496
Tangerine: item #CPU1497
Strawberry: item #CPU1495

\$1299! ea.

Lease It! for \$38/mo*

Free! 400MHZ iMAC DV 64MB RAM SPECIAL EDITION

after rebate.
Installation
fee required.

Ask for item
#AAP1115
and #INSTL10.

Same features as
iMac DV PLUS:

- 128MB SDRAM • 13GB HD
- See-thru Graphite Color

\$1499!

Lease It! for \$44/mo*

Item #CPU1498



See page
5 of 9

* Free 64MB RAM Upgrade AFTER MacWAREHOUSE \$100 mail-in rebate when you purchase an Apple PowerMac G4, PowerBook G3, iBook or iMac DV. Price before rebate is \$129.95. Installation fee of \$29.95 required. Visit www.warehouse.com/rebate/macwarehouse for mail-in rebate coupon or call us at 1-800-390-0706 to request one. Offer not valid on purchase of 333MHz iMacs, 350MHz iMac, or any reconditioned computer. MacWAREHOUSE reserves the right to terminate this offer at any time. Offer expires 4/30/2000.

PAGE 1 OF 9

1-800-434-3036 ★ www.warehouse.com/md

ORDER TOLL-FREE 24 HOURS A DAY, 7 DAYS A WEEK! CANADA ORDERS CALL: 1-800-603-5139

MacWAREHOUSE®

**EXPRESS DELIVERY
OVERNIGHT!**

In-stock items, call by midnight (E).



Hi, I'm Michael. Call me
for more great deals!



MacWAREHOUSE

Buy any Power Mac G4 —

Nikon • Apple • Quark • Kodak • Iomega • PowerUser • Canon

USB Cables

Starting at **\$14.99!** ea.

Call for more selection and details!

USB

250MB Zip USB Drive

Only **\$179.95!**

DR11308

- USB compatible
- Backwards compatible
- 56% smaller than original USB Zip Drive

Zip 250MB Disk 4-pack, ask for item #ME8138, only \$69.95

GL1 Digital Video Camera

Only **\$2499.95!**

IN8223

- 20X Optical Zoom
- 100X Digital Zoom
- FireWire input and output • 3 CCD image sensors

warehouse.com/canon/DV

Update! QuarkXPress 4.1

Trade-up for only **\$299.95!***

SID1004

Precise layout tools and control over every aspect of your document!

QuarkXPress 4.1 Full Version, ask for item #DTP1040, only \$729.95

*For PageMaker owners. Serial number required at time of purchase. Packaging shown may vary from shipped product.

Kodak DC290 Zoom Digital Camera

New Low Price!

Only **\$899.95!**

was \$999.95

IN8305

- 3.3 megapixels in Ultra Mode
- 3X optical/2X digital zoom lens
- USB and serial cables included
- 2" color LCD

Kodak

Apple Power Mac G4

New! Now up to 500MHz!

As low as \$1599!

Lease It! for as low as \$47/mo.*



Model shown is CPU1574. Monitor sold separately.

The Gigaflop is Here!

The Power Mac G4 runs at over a gigaflop — a billion floating-point operations per second!... and a full 100% to 200% faster running Photoshop than the fastest Pentium® III processor-based PC!*

*Based on Apple internal benchmark tests.

Apple 17" Studio Display

Only **\$499!**

- 17" Diamondtron CRT (16" viewable)
- 1600 x 1200 @ 60Hz
- Graphite and ice to match the Power Mac G4

Item #MON1044

Apple 21" Studio Display

Only **\$1499!**

- 21" screen (19.8" viewable)
- 1600 x 1200 @ 85Hz
- Graphite and ice to match the Power Mac G4

Item #MON1043

Power Mac G4 Memory

128MB PC100 SDRAM

Only **\$299.95!** each

• 100MHz DIMM

Item #CHP0691

Memory prices subject to change.

PAGE 2 OF 9

- Our sales staff is ready to take your order 24 hours a day, 7 days a week. We accept the following major credit cards: Visa, MasterCard, Discover Card/Novus, AmEx. Your credit card will not be charged until each item is shipped (no surcharge). CT, IL, NJ and OH residents add applicable sales tax.
- Shipping Charges & Delivery. Overnight delivery for non-GSA orders is \$9.95 per order up to 5 pounds. For all orders over 5 pounds, shipping is \$9.95 plus an additional \$1.80 per pound or fraction thereof. (Example: shipping for a 6 pound order is \$11.75). Please add an additional \$3.00 for orders \$50.00 and under.
- Orders for "in-stock" items placed on weekdays up until 12:00 midnight (E), 11:00 pm (E) for Internet orders, ship same day for overnight delivery (barring system failure, etc.). We anticipate

- being able to ship "out-of-stock" items within 30 days.
- Every item we sell comes with our 30-day guarantee against defects. If a product is defective in any way, please call us within 30 days of the original invoice date. You will be transferred to a Technical Support Representative to verify the defect. Upon verification, you will be issued a Return Merchandise Authorization (RMA) number. RMA numbers issued by Micro Warehouse are valid for 15 days only, and the product(s) must be received by Micro Warehouse within that time. RMA numbers cannot be extended or re-issued. Defective software will be replaced upon receipt of the defective product. Defective hardware will be replaced or repaired at our discretion, except for products from Apple (1-800-SOS-APPLE, 1-800-767-2775), Tektronix (1-800-835-

6100), or Minolta printers (1-800-459-3250). These manufacturers must be contacted directly, and will repair or replace products at their sole discretion. Should you return hardware to MacWAREHOUSE from Apple or Tektronix, you will be assessed a 15% restocking fee which will be charged to your account. We cannot accept returns of Minolta printers. All returns are subject to the following: 1. All products must be returned in original packaging. 2. Shipping and handling charges are not refundable. 3. Software and consumables are not refundable unless returned unopened in original packaging with documentation. 4. Custom orders and cables are not refundable. 5. Products designated as "all sales final," "no returns," or similar language may not be returned.

Copyright© 2000 Micro Warehouse, Inc. MacWAREHOUSE® is a division of Micro Warehouse, Inc. Item availability and price subject to change without notice. We regret that we cannot be responsible for typographical errors. All prices shown in U.S. dollars. Micro Warehouse makes no representations or warranties of any kind and assumes no liability concerning whether any of the products or services sold by us are Year 2000 Compliant. Year 2000 representations and warranties may be supplied directly to our customers by the manufacturers or publishers of certain products.



We accept these major credit cards.

Get 64MB RAM FREE!*

CALL FOR A **FREE**
FULL-COLOR
CATALOG!



Nikon • Adaptec • Tektronix • EPSON • AGFA • Apple • Iomega • Quark

Free! 64MB RAM UPGRADE!

after rebate, when you purchase
a Power Mac G4!

Ask for item #AAP1114 and INSTL10. Installation fee required.

*Free 64MB RAM Upgrade AFTER MacWarehouse \$100 mail-in rebate. Price before rebate is \$129.95. Installation fee of \$29.95 required. Visit www.warehouse.com/rebate/macwarehouse for mail-in rebate coupon or call us at 1-800-390-0706 to request one. Offer not valid on purchase of reconditioned Power Macs. MacWAREHOUSE reserves the right to terminate this offer at any time. Offer expires 4/30/2000.

Power Mac G4 Features:

- ✓ PowerPC G4 processor with speeds up to 500MHz
- ✓ Velocity Engine with advanced vector processing
- ✓ Superfast 100MHz system bus and 1MB Backside Level 2 Cache running at half the processor speed
- ✓ Up to 256MB PC100 SDRAM, expandable to 1.5GB
- ✓ Up to 27.0GB ATA/66 hard drive space
- ✓ DVD-ROM or DVD-RAM drives — both with video playback
- ✓ Built-in 100MB Zip drive (CPU1575, CPU1576)
- ✓ 56K modem (CPU1574, CPU1575)
- ✓ Built-in 10/100Base-T Ethernet
- ✓ Built-in antenna and support for optional Airport wireless networking
- ✓ ATI RAGE 128 Pro graphics card with 16MB of graphics memory installed in an AGP 2X slot
- ✓ Four expansion slots: three 64-bit PCI slots and one dedicated AGP 2X graphics card slot
- ✓ Three FireWire ports
- ✓ Two USB ports
- ✓ Mac OS 9 system software

Speed to Burn!

The next generation of Power Macs™ are built around the blazing PowerPC™ G4 processor to play multimedia and crunch data at lightning-fast speeds! It's the fastest machine ever designed to run graphics applications like Adobe Photoshop, InDesign and QuarkXPress. Blink, and you'll miss it!

More Speed Than Megahertz Alone!

The speed secret is in the processing — 128-bit chunks, instead of 64 or 32-bit chunks. No wonder a G4 can perform many tasks at twice the speed of a Pentium® III processor* — even when the megahertz speeds look the same!

New!

400MHz!



Power Mac G4/400MHz

400MHz G4 processor/64MB SDRAM/
10.0GB Ultra ATA/66 HDD/DVD-ROM/
56K modem

Item #CPU1574..... **\$1599!**

Lease It! for as low as \$47/mo. \$

New!

450MHz!



Power Mac G4/450MHz

450MHz G4 processor/128MB SDRAM/20.0GB
Ultra ATA/66 HDD/DVD-ROM/56K modem/
Zip Drive

Item #CPU1575..... **\$2499!**

Lease It! for as low as \$73/mo. \$

New!

500MHz!



Power Mac G4/500MHz

500MHz G4 processor/256MB SDRAM/27.0GB
Ultra ATA/66 HDD/5.2GB DVD-RAM/
Zip Drive

Item #CPU1576..... **\$3499!**

Lease It! for as low as \$102/mo. \$

AGFA 1212U Scanner

Only
\$69.95!
IN7951
after \$30 rebate



- Translucent Bondi blue
- 36-bit color
- 600 x 1200 ppi

While
supplies
last!

*Price AFTER mfr's \$30 mail-in rebate. Rebate coupon available at www.warehouse.com/rebate/agfa, or call us at 1-800-390-0706 to request one. Offer expires 6/30/2000.

EPSON Stylus Color 850 Printer

Only
\$249.95!
PR13559

Mac Serial
Compatible!



- 9ppm black, 5.5ppm color
- 1440 x 720 dpi
- Mac USB and Serial

EPSON®

Nikon CoolPix 990 Digital Camera

Only
\$949.95!
IN8547



- 3.3 Megapixel resolution
- 3x Nikkor zoom lens
- 8 shooting modes

Nikon

Adaptec PowerDomain 2930U Ultra SCSI Adapter

Ideal for
Power Mac G3
and G4!

Only
\$89.95!
DRI3165



- 20MB/sec. transfer rate
- Internal & external connectors • Bootable

Adaptec

Phaser 850N Printer

Tektronix

Only
\$249.95!
PR16084



- 14ppm color/1000 dpi
- Adobe PostScript Level 3
- 10/100Base-T
- ColorSync ready

PAGE 3 OF 9

1-800-434-3036 ★ www.warehouse.com/md

ORDER TOLL-FREE 24 HOURS A DAY, 7 DAYS A WEEK! CANADA ORDERS CALL: 1-800-603-5139

MacWAREHOUSE EXPRESS DELIVERY
OVERNIGHT!

Your #1 Source for Mac Systems and Products—since 1987!

In-stock items, call
weekdays by midnight (E),
or order online weekdays
by 11pm (E).



Call by Midnight (E) for
Overnight delivery!

FREE 64MB RAM Upgrade -

Broderbund • Apple • Iomega • Hewlett Packard • Umax • Kensington • Sony

FileMaker Pro 5 Upgrade/Trade-up

Only **\$139^{95!}**
UPG1102

Qualifying products: Any previous version of FileMaker, Acius 4th Dimension 6.0, 6.5, Microsoft Access 95, 97, 2000, Lotus Approach 96, 97, and Corel Paradox 7, 8, 9.

FileMaker.

USB Floppy Drive 

Available in 6 colors!

Only **\$84^{95!}**
DR12164

VST TECHNOLOGIES

Imation Mac Neon 3.5" Disk 10-pack, only \$5.90 (only 59¢ each!), #MED0540

HP DeskJet 932c Color Printer

Only **\$199^{95!}**
PR16052

• USB compatible only
• 9ppm blk, 7.5ppm clr • PhotoREt III technology
Black Ink Cartridge, only \$19.99, item #PR14329.

USB iMac USB Hubs

4-Port only \$49^{99!} ea.

• Stackable up to 127 peripherals

Xircom DEH4727: Blueberry
DEH4729: Tangerine

UMAX Astra 2100U Color Scanner

New Low Price!

Was \$129.95:
Now only **\$99^{95!}**
IN7925

• 36-bit
• 600 x 1200 dpi optical resolution

UMAX

PAGE 4 OF 9

Orbit USB for Mac

Only **\$49^{95!}**

Ask for item #INP1761.

• Designed specifically for use with USB
• Fits the natural shape of your hand; ideal for right- or left-handed users • Manufacturer's 5-year warranty

KENSINGTON

HP DeskJet 895cse Printer

Only **\$249^{95!}**

Ask for item #PR14208.

• 11ppm black • 8.5 ppm color
• PhotoRet II technology • USB compatible
Black Ink Cartridge, only \$29.99, item #67208.

Sony Digital FD73 Mavica

Only **\$499^{95!}**

Ask for item #IN7834.

• 10x optical zoom • E-mail mode • 2.5" Color LCD • VGA resolution • Quick Access 2X Floppy Disk Drive • Picture effect • File copy/disk copy

SONY

Free! 64MB RAM UPGRADE!

after rebate, when you order any iMac DV or iMac DV Special Edition!

Ask for item #AAP1115 and INSTL10. Installation fee required.

*Free 64MB RAM Upgrade AFTER MacWarehouse \$100 mail-in rebate. Price before rebate is \$129.95. Installation fee of \$29.95 required. Visit www.warehouse.com/rebate/macwarehouse for mail-in rebate coupon or call us at 1-800-390-0706 to request one. Offer not valid on purchase of 333MHz iMacs, 350MHz iMac, or any reconditioned iMac. MacWAREHOUSE reserves the right to terminate this offer at any time. Offer expires 4/30/2000.

Cooler, Sleeker iMacs - Mixed 3 different ways!

1 Apple iMac 350MHz Blueberry

- 350MHz PowerPC™ G3 processor
- 512K Backside Level 2 Cache
- 64MB of SDRAM (exp. to 512MB)
- 6.0GB Ultra ATA HD drive
- 24x (max. variable) CD-ROM
- Built-in 56K V.90 modem
- ATI RAGE 128 VR 2D/3D graphics accelerator with 8MB SDRAM (AGP 2X)
- Odyssey audio system from Harman Kardon
- 15" color display
- 10/100BASE-T Ethernet
- 2 USB ports (12Mbps ea.)
- Support for AirPort 11Mbps wireless networking (antenna built-in; AirPort card optional)

Only **\$999^{95!}**
#CPU1492
†Free Memory Offer does not apply
Lease It! for \$29/mo.*

2 Apple iMac DV 400MHz

Includes ALL the GREAT Features of the 350MHz Model - PLUS -

- 400MHz Processor
- Slot-loading DVD drive
- Movie-making software
- Two FireWire ports
- 10.0GB Ultra ATA HD drive

Only **\$1299^{95!}** each
Lease It! for \$38/mo.*

Lime:	Blueberry:	Strawberry:	Tangerine:	Grape:
Item	Item	Item	Item	Item
#CPU1496	#CPU1493	#CPU1495	#CPU1497	#CPU1494

IDOCK 2 USB MULTIPORT HUB

COMPUcABLE

- Floppy drive
- Swivel Base
- 4 USB ports
- 2 Serial ports
- 1 ADB ports

Only **\$259^{99!}**
Item #DEH4620

Includes 3.5 floppy drive!

MYST

FREE*

with any purchase from MacWAREHOUSE
Item #AAA0742

• Challenge your puzzle-solving skills in the Island world that is Myst!

*\$3.95 shipping and handling applies. Shipped in promotional packaging. Hurry! Offer good while supplies last.
**Value based on MacWAREHOUSE pricing as of this magazine printing.

Broderbund



When you order any iMac DV!

VST • Epson • Aladdin • Xircom • Farallon • Microsoft • XLR8 • Intuit

3 Apple iMac DV Special Edition

- 400MHz PowerPC™ G3 processor
- 512K Backside Level 2 Cache
- 128MB of SDRAM (exp. to 512MB)
- ATI RAGE 128 VR 2D/3D graphics accelerator
- 13.0GB Ultra ATA HD drive
- 4X max. DVD-ROM drive
- Built-in 56K V.90 modem
- 15" color display
- Harman Kardon Odyssey Audio System
- 10/100BASE-T Ethernet
- Dual FireWire ports
- Two 12Mbps USB ports
- Support for AirPort 11Mbps wireless networking (antenna built-in; AirPort card optional)
- Preinstalled iMovie software

Only **\$1499!**

#CPU1498

Lease It! for \$44/mo.*



• Cool See-thru Graphite Housing!

• 128MB RAM!

• 13.0GB HD!

400MHz!

Get MORE POWER for your 350 — 400MHz iMac!

Our Apple Authorized technicians will install your RAM for only \$29.95 when you purchase your new iMac and memory upgrade together!

Ask for item #INSTL30.

Size/Type	Item #	Price
32MB PC100	CHP1041	\$99.95
64MB PC100	CHP1037	\$199.95

Memory prices subject to change.



iomega 100MB USB Zip Drive

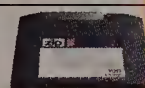


Only **\$129⁹⁵!**
DR9464

Zip Disk sold separately.

iomega 100MB Zip Disks

as **\$8⁹⁹!** each,
low as in 20-pk.



20-pack (gray): only \$179.80, #BND3616.

EtherMac iMac iPrint Adapter with built-in PhoneNet!

Only **\$104⁹⁹!**
DEP1734



- Connects your iMac to LocalTalk printers and other Macs
- Easy plug-and-play installation
- Ethernet iPrint Adapter for Stylewriter, only \$79.99, #DEP1739.

Canon ELURA DV Camera

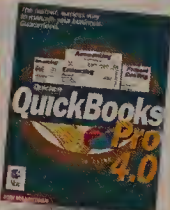


Was \$1599.95:
Now Only **\$1499⁹⁵!**
IN8176

- 12X Optical/48x Digital Zoom
- IEEE 1394 Terminal In & Out
- 2.5" LCD & Color Viewfinder

Quickbooks Pro 4.0

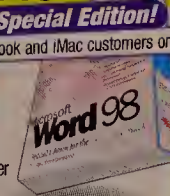
Only **\$179⁹⁵!**
FIN1007



- Timesheet functions
- Generates customizable estimates
- Automated job costing
- Previous data from QuickBooks or Quicken is automatically updated to QuickBooks Pro 4.0!

Microsoft Word 98

Special Edition!
For iBook and iMac customers only!
Only **\$89⁹⁵!** after rebate
WP3072



Includes Word 98, Internet Explorer 4.5 and Outlook Express 4.5.

*Price AFTER publisher's \$30 mail-in rebate. Before rebate: \$119.95. Rebate coupon in box. Offer expires 7/31/2000.

MICROSOFT OFFICE 98

Microsoft®

Includes:

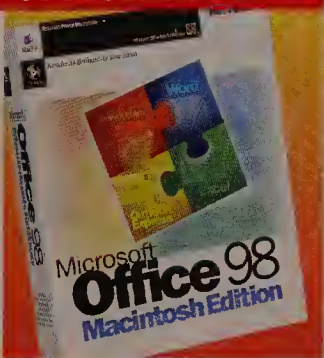
- Word 98 • PowerPoint 98
- Excel 98 • Outlook Express

Upgrade only

\$249⁹⁵!

Item #UPG0778

Microsoft Office 98 Full Version
US1150 \$419.95



EPSON STYLUS COLOR 740i PRINTER

- Blueberry cover standard
- 1440 x 720 dpi with smaller ink drops • 6ppm blk; 5ppm clr
- USB/Mac serial compatible

Other color covers available for only \$14.95 each! Call for details.

EPSON®

only **\$129⁹⁵!** after \$50 rebate
Item #PR15063

*Price BEFORE manufacturer's \$50 mail-in rebate is \$179.95-\$50 rebate=\$129.95. Rebate coupon available at www.warehouse.com/rebate/epson, or call us at 1-800-390-0706 to request one. Offer expires 7/31/2000.



Black Ink Cartridge: PA1582 \$29.99

PAGE 5 OF 9

1-800-434-3036 ★ www.warehouse.com/md

ORDER TOLL-FREE 24 HOURS A DAY, 7 DAYS A WEEK! CANADA ORDERS CALL: 1-800-603-5139

MacWAREHOUSE EXPRESS DELIVERY OVERNIGHT!

Your #1 Source for Mac Systems and Products—since 1987!

In-stock items, call weekdays by midnight (E), or order online weekdays by 11pm (E).



Call by Midnight (E) for Overnight delivery!



MacWAREHOUSE

New Apple PowerBook

Apple • Newer Technology • Global Village • Imation • 3Com US Robotics • Xircom

MYST

FREE!
with any purchase from
MacWAREHOUSE
AAA0742
A \$29.95 Value! **

• Challenge your puzzle-solving skills in the Island world that is Myst!

*\$3.95 shipping and handling applies. Shipped in promotional packaging. Hurry! Offer good while supplies last.
**Value based on MacWAREHOUSE pricing as of this magazine printing.

Broderbund

USB to Serial

Only \$59.99!
DAD1665

• Use your Mac or iMac USB port to connect serial modems, digital cameras, graphic tablets, printers, and PDAs

• Supports either the Mac modem or printer port

Palm VII Connected Organizer with MacPac 2

Only \$449.95!
BND3797

Features Web Clipping to retrieve stock quotes, and other Internet* information.
*Internet access requires activation and a monthly Palm.Net server fee. Service provided by 3Com

Palm VII

Olympus D-360L

1.3 MEGAPIXEL!

Only \$299.95!
IN8569

OLYMPUS

• 2x digital zoom • 8MB Smartmedia card included
• 1.3 Megapixel • 1.8" Ultra-bright color LCD

SupraExpress V.90 56K* Modem

Only \$79.99! **
after rebate
DMD3503

DIAMOND
COMMUNICATIONS DIVISION

*Capable of receiving data up to 56Kbps. Actual send and receive speeds may vary.
**Price AFTER manufacturer's \$20 mail-in rebate. Price before rebate: \$99.95. Rebate coupon available at www.warehouse.com/rebate/diamond or call us at 1-800-390-0706. Offer expires 3/31/2000.

PAGE 6 OF 9

Fuji CD-Rs

Only 99¢ each,
in 50-pack spindle

Ask for item #ME8599

• 74 min. • 650MB

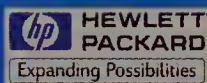
IMATION

HP LaserJet Printers

HP LASERJET 8000N
Only \$2449!

Ask for item #PR13724.
Lease it! for \$71/mo.*

- Prints 24ppm • 1200 dpi max. resolution
- 133MHz RISC processor



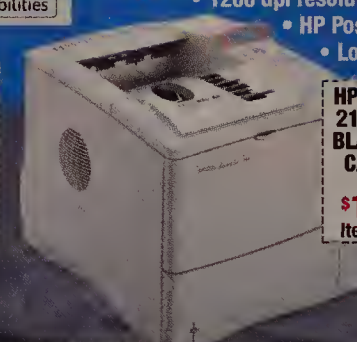
HP LASERJET 8000 SERIES BLACK TONER CARTRIDGE
Only
\$179.95 ea.
Item #63223

HP LASERJET 2100M

- Prints 10ppm
- 1200 dpi resolution
- HP PostScript Level 2
- LocalTalk connectivity

HP LASERJET 2100 SERIES BLACK TONER CARTRIDGE
Only
\$109.95 ea.
Item #PA1871

HP LaserJet 2100M
\$749!
Item #PR14691



HP LASERJET 8100N

- Prints 32ppm • 1200 dpi

Item #PR14315Lease it! for \$80/mo.*

HP COLOR LASERJET 8500N

- Prints 24ppm blk/6ppm color • 600 dpi

Item #PR14213Lease it! for \$181/mo.*

HP LASERJET 8100 SERIES BLACK TONER CARTRIDGE
Only
\$219.99 ea.
Item #PA1662

HP LASERJET 8500 SERIES BLACK TONER CARTRIDGE
Only
\$109.99 ea.
Item #PA1644

HP LASERJET 4050N
Only \$1379.95

Ask for item #PR14947.

Lease it! for \$40/mo.*

- Prints 17ppm
- 1200 dpi maximum resolution
- 100MHz RISC processor
- Ethernet 10Base-T/10Base-2 + LocalTalk

HP LASERJET 5000N (not shown)

- Prints 16ppm • 1200 dpi • Prints 3" x 5" thru 11" x 17"

Ask for item #PR13443Lease it! for \$57/mo.*

HP LASERJET 4050 SERIES BLACK TONER CARTRIDGE
Only
\$94.95 ea.
Item #PR13025

HP LASERJET 5000 SERIES BLACK TONER CARTRIDGE
Only
\$169.99 ea.
Item #PR13742

MAC OS 9

Upgrade only

\$69.95!*
after \$30 in rebates

Item #SYS1012

FREE†

SOFTWARE BUNDLE!
Including Spring Cleaning and many other software titles, with the purchase of Mac OS 9.

Ask for item #AAA1043.

PLUS... FREE††

iTools
with purchase of Mac OS 9!

Features you'll love!

- Sherlock 2: Easily find people, news, and shopping on-line!
- Easy-to-use, functional interface
- Compatibility with popular search engines such as AltaVista, CNET, Excite, Infoseek, and Lycos
- Plug-ins that search popular sports, financials, and news sites such as CNN and ESPN
- Ability to search multiple shopping and e-commerce sites at the same time
- Built-in Open GL for accelerated 3-D graphics and an improved gaming experience

*Price AFTER Apple \$20 mail-in upgrade rebate and MacWAREHOUSE \$10 mail-in rebate. Before rebates: \$99.95. Apple rebate requires proof of ownership for OS 8.5, OS 8.5.1 or OS 8.6. Rebate coupon in box. Offer expires 5/1/2000. MacWAREHOUSE rebate limit one per customer (or 5 per customer site.) MacWAREHOUSE rebate coupon available at www.warehouse.com/rebate/applesoftware or call us at 1-800-390-0706. Not to be combined with other MacWAREHOUSE offers. Rebate expires 5/1/2000.

†\$9.95 shipping & handling applies.

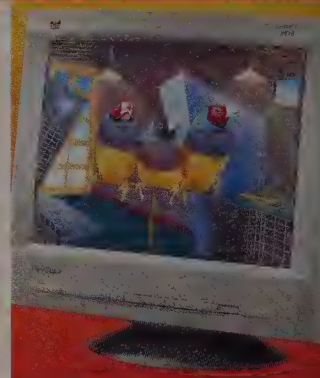
††iTools is free to Macintosh® users running the Mac OS 9 operating system, and can be accessed at www.apple.com. See box for details.

VIEWSONIC P810 21"



- 21" screen (20" viewable)
- .25mm dot pitch
- 1800 x 1440 @ 73Hz resolution
- Manufacturer's 3-year warranty

Only \$862.95!
Item #MT3320



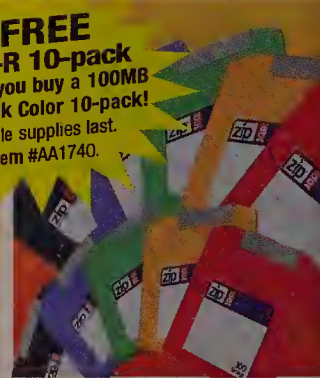
IOMEGA 100MB ZIP DISKS



FREE
CD-R 10-pack
when you buy a 100MB
Zip Disk Color 10-pack!
While supplies last.
Item #AA1740.

New Low Price!
\$8.99!
each, in 20-pack
Item #BND3616

- 100MB Zip Disk Gray (20-pack)
BND3616 \$179.80
- 100MB Zip Disk Color (10-pack)
BN5265 \$99.95

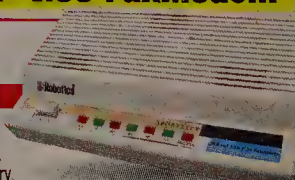


3Com U.S. Robotics 56K* V.90 FaxModem

Only \$99.99!

Ask for item #DMD3448.

- Manufacturer's lifetime warranty
- *Capable of receiving data up to 56Kbps. Actual send and receive speeds may vary.

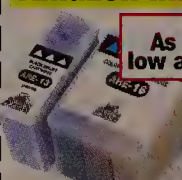


Amazon Inkjet Cartridges

As low as \$22.95!
each, in 4-pack

FREE*
InkJet Cartridge
with the purchase of a
Inkjet cartridge
4-pack.

- 4-Pack Black Ink cartridges for Epson Stylus Color 740/740i/1160: Item #PA2315 \$91.80
- 4-Pack Color Ink cartridges for Epson Stylus Color 440/640/ 740/740i/1160: Item #PA2317 \$91.80
- *Free cartridge shipped in package.



G3 as fast as 500MHz!



Hewlett Packard • ViewSonic • Iomega • Olympus • BroderBund • Amazon • Targus

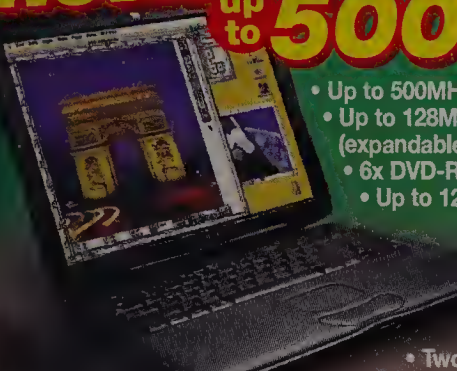
New! Faster PowerBook G3s!

up to **500MHz!**

- Up to 500MHz PowerPC G3 processor
- Up to 128MB PC100 SDRAM (expandable up to 512MB)
- 6x DVD-ROM drive
- Up to 12.0GB Ultra ATA/66 hard drive

Free!
64MB RAM UPGRADE!

after rebate, when you purchase an Apple PowerBook!
Ask for item numbers #AAP1124 and INSTL10. Installation fee required.



- 56K V.90 modem
- 1MB Backside Level 2 Cache
- 14.1" active-matrix display
- Support for optional AirPort card for wireless connection to your network or the Internet
- Two 400Mbps FireWire ports
- Two independent 12Mbps USB ports

NEW! PowerBook G3/400MHz processor

- 400MHz • 64MB SDRAM • 6.0GB Ultra ATA/66 HDD • DVD-ROM • 2 FireWire ports
- Optional AirPort support • 1MB Backside L2 Cache

CPU1580 **Lease It! for \$73/mo.**

\$2499

NEW! PowerBook G3/500MHz processor

- 500MHz • 128MB SDRAM • 12.0GB Ultra ATA/66 HDD • DVD-ROM • 2 FireWire ports
- Optional AirPort support • 1MB Backside L2 Cache

CPU1581 **Lease It! for \$102/mo.**

\$3499

*Free 64MB RAM Upgrade AFTER MacWAREHOUSE \$100 mail-in rebate. Price before rebate is \$129.95. Installation fee of \$29.95 required. Visit www.warehouse.com/rebate/macwarehouse for mail-in rebate coupon, or call us at 1-800-390-0706 to request one. Offer not valid on purchase of any reconditioned computer. MacWAREHOUSE reserves the right to terminate this offer at any time. Offer expires 4/30/2000.

Order Online at www.macwarehouse.com



The Fastest Laptop Ever!
According to Apple benchmark tests using Photoshop

NEW SPECIAL EDITION iBOOK

- 366MHz PowerPC G3 processor
- 64MB SDRAM • 56K modem
- 6.0GB Ultra ATA hard drive
- 24x max. variable CD-ROM
- Integrated ATI RAGE Mobility 2D/3D Graphics Accelerator with 2X AGP
- Optional Airport support

FREE* 64MB RAM!
*after rebate. Installation fee required. Ask for item numbers #AAP1113 and INSTL10.



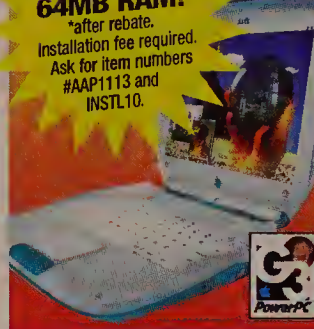
Apple iBook 366MHz G3
\$1799!

Lease It! for \$52/mo.
Item #CPU1579

NEW 300MHZ iBOOK G3s

- 300MHz PowerPC G3 processor
- 64MB SDRAM • 56K modem
- 6.0GB Ultra ATA hard drive
- 24X max. variable CD-ROM
- Integrated ATI RAGE Mobility 2D/3D Graphics Accelerator with 2X AGP
- Optional Airport support

FREE* 64MB RAM!
*after rebate. Installation fee required. Ask for item numbers #AAP1113 and INSTL10.



Apple iBook 300MHz G3
\$1599!^{ea}

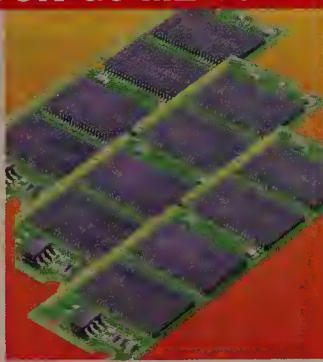
Lease It! for \$47/mo.
Blueberry: item #CPU1577
Tangerine: item #CPU1578

iBOOK/POWERBOOK G3 MEMORY

Upgrading your memory is the most cost-effective way to increase the performance of your system!

32MB iBook, PowerBook G3 Memory only
\$99⁹⁵!
each
Item #CHP9820

Memory prices subject to change.



AIRPORT CARD & STATION

- Transmits up to 150 feet
- Speeds up to 11MB per second

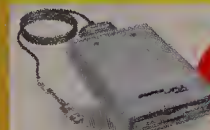
AirPort Card for iBook only
\$99!
Item #DEC4142

AirPort Base Station for iBook (shown)
#DEB2777\$299



Wireless Internet Access!

120MB USB SuperDisk Drive



Only **\$129⁹⁵!**
after rebate
DR10760

- Reads and writes 3.5" floppies
- USB & Hot-Swappable!

120MB SuperDisk Media 10-pack, only \$69.90** (only \$6.99 ea.), #BND3239.
*Price AFTER manufacturer's \$20 mail-in rebate. Before rebate: \$149.99. Rebate expires 4/30/2000.
**Price AFTER manufacturer's \$30 mail-in rebate on 10-pack. Before rebate: \$99.90. Rebate expires 6/30/2000. Rebate coupons are available at www.warehouse.com/rebate/imation or call 1-800-390-0706 to request them.

Targus Universal Notebook & Printer Case

Only **\$69⁹⁵!**
AC28478



TARGUS

- Two individual padded compartments that measure 11" x 13" x 2.5"

PowerBook G3 Battery

As low as **\$139⁹⁵!**
ACC3728

- Lithium-Ion
- ACC3728 (fits new 1999/2000 models), only \$139.95
ACC3307 (fits 1998 models) shown, only \$199.95

56K* PC Card FaxModem

Only **\$149⁹⁵!**
DMD3824

- K56 Flex and V.90 technology
 - Send, receive, view, print, and manage faxes right from your PowerBook
- *Capable of receiving data up to 56Kbps. Actual send and receive speeds may vary.



FireWire 2 Go

Add FireWire to your PowerBook G3!



Only **\$139!**
DRI3505

Fits in CardBus slot

PAGE 7 OF 9

1-800-434-3036 ★ www.warehouse.com/md

ORDER TOLL-FREE 24 HOURS A DAY, 7 DAYS A WEEK! CANADA ORDERS CALL: 1-800-603-5139

MacWAREHOUSE EXPRESS DELIVERY OVERNIGHT!

Your #1 Source for Mac Systems and Products—since 1987!

In-stock items, call weekdays by midnight (E), or order online weekdays by 11pm (E).



Call by Midnight (E) for Overnight delivery!



MacWAREHOUSE

Adobe Photoshop 5.5

Apple • 3Com • Global Village • Imation • Mitsubishi • Iomega • Microtek

Olympus C-2020 Digital Camera

New Low Price!
Was \$899.95:
Now only
\$799⁹⁵!
IN8346

4 "AA" NIMH Batteries, Remote, and SMB Card included!



- 2.1 Megapixel
 - 3X optical zoom • 1600 x 1200 ppi res.
 - QuickTime movie mode (up to 60 seconds)
- Olympus P330 Stylus Photo Printer, ask for item #PR14784, only \$399.95

64MB SmartMedia Cards

Only
\$199⁹⁵!
MY12482



- Digital film for digital cameras
- Compatible with new digital cameras with SmartMedia slot

Microtek ScanMaker 4

Only
\$599⁹⁵!
IN8332



- 36-bit color
- 600 x 1200 dpi
- Built-in transparency & slide bay
- 8.5" x 14" scanning area

FREE Snaptrans templates included!
MICROTEK

Maxell CD-R

Only
99¢ each,
for single
ME6352
While supplies last!

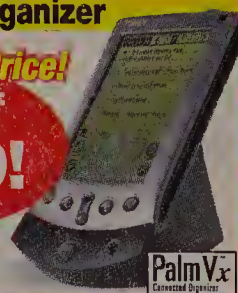


maxell

Palm Vx Connected Organizer

New Low Price!
Was \$429:
Now only
\$399⁹⁵!
BN7020

- New sleek design
- 8MB of memory



Palm Vx
Connected Organizer

PAGE 8 OF 9



Authorized
Catalog Reseller

Apple 333MHz iMacs

only **\$799⁹⁵!** each

Order Online at
www.macwarehouse.com



Apple iMac 350MHz

- 350MHz • 64MB SDRAM
- 6.0GB HD • 24X max. CD-ROM
- 56K modem • 15" monitor



RECONDITIONED

Blueberry
only **\$899⁹⁵!**
Item #RCPU1492



Apple iMac 400MHz DV

- 400MHz • 64MB SDRAM • 10.0GB Ultra ATA HD
- 4X DVD-ROM • 56K modem • 15" monitor



RECONDITIONED

Only
\$1199⁹⁵! ea.

Blueberry: #RCPU1493 • Grape: #RCPU1494 • Lime: #RCPU1495
Strawberry: #RCPU1495 • Tangerine: #RCPU1497



Apple iMac DV Special Edition

- 400MHz • 128MB SDRAM
- 13.0GB Ultra ATA HD • 4X DVD-ROM
- 56K modem • 15" monitor



RECONDITIONED

Graphite
only **\$1399⁹⁵!** Item #RCPU1498

While supplies last!

APPLE 333MHZ IMACS: 5 COLORS TO CHOOSE FROM!

- 333MHz PowerPC G3 processor
- 32MB SDRAM (256MB max.)
- 6.0GB hard drive
- 24X max. variable CD
- 56K modem
- 15" color monitor

Lime: Item #RCPU1338
Grape: Item #RCPU1337
Tangerine: Item #RCPU1340
Blueberry: Item #RCPU1336
Strawberry: Item #RCPU1339



RECONDITIONED



Blueberry, shown.

*Reconditioned system. Reconditioned computers may not include original application software. 90 day parts and labor warranty. All sales final. While supplies last. Free memory offer does not apply.

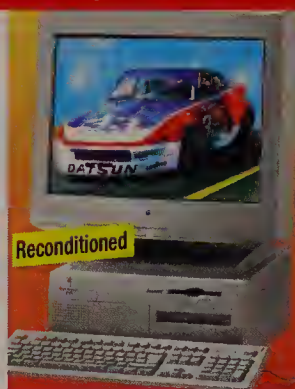


POWER MAC 7200/90MHZ

- 90MHz PowerPC 601 processor
- 16MB RAM • 500MB HD
- 4X max. variable CD-ROM
- 3 PCI Slots

Only
\$399⁹⁵!
Item #RCPU1471

*Reconditioned system. Reconditioned computers may not include original application software. 90 day parts and labor warranty. All sales final. While supplies last.
Monitor and keyboard not included.
Free memory offer does not apply.



Reconditioned



POWER MAC 7100/80MHZ

- 80MHz PowerPC 601 Processor
- 16MB RAM • 500MB HD
- 4X max. variable CD-ROM
- 256K Level 2 Cache • 2 Geo ports

Only
\$299⁹⁵!
Item #RCPU1356

*Reconditioned system. Reconditioned computers may not include original application software. 90 day parts and labor warranty. All sales final. While supplies last.
Monitor and keyboard not included.
Free memory offer does not apply.



Reconditioned

DIAMOND PRO 900u 19" MONITOR



MITSUBISHI

- 1600 x 1200 @ 75Hz
- 18" viewable size
- .25 aperture grille
- Manufacturer's 3-year warranty

Only
\$610⁹⁵!
Item #MON0765

Flat Screen CRT!



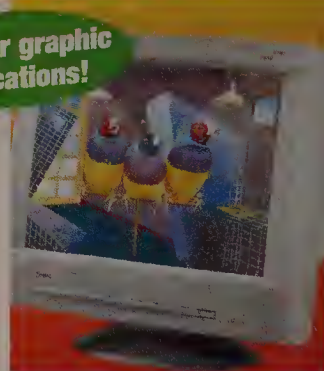
VIEWSONIC P810 21" MONITOR



Ideal for graphic applications!

- 21" monitor (20" viewable)
- 1800 x 1440 @ 73Hz
- .25mm dot pitch

Only
\$862⁹⁵!
Item #MT3320



FREE*
CD-R 10-pack
when you buy 1 Jaz 2.0GB
cartridge, #AA1740

Jaz 2.0GB Cartridges

Only **\$99⁹⁵!** each,
in 3+ quantity
Ask for item #MED0508.

Quantity: 1-2 | 3+
Price: \$124.95 ea. | \$99.95 ea.

*Limit 1 per customer. While supplies last. Ask for Item #AA1709.

Epson ELP 5700i Laser Printer**

Only **\$349⁹⁵!** after mfr's \$50
mail-in rebate
Ask for item #PR15675.

- 8ppm • Up to 1200 dpi • USB compatible only
- *Price BEFORE mfr's mail-in rebate is \$399.95 - \$50 rebate = \$349.95. Rebate coupon in box. Offer expires 5/31/2000.
- **Optional blueberry or grape cover available. Redeem through mfr's mail-in coupon in box.

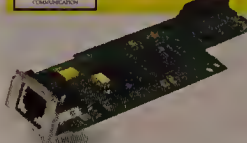


EPSON



Global Village 56K* Teleport Internal Mac Modem

Only **\$84⁹⁵!**
Ask for item #DMD4267.



*Capable of receiving data up to 56Kbps. Actual send and receive speeds may vary.

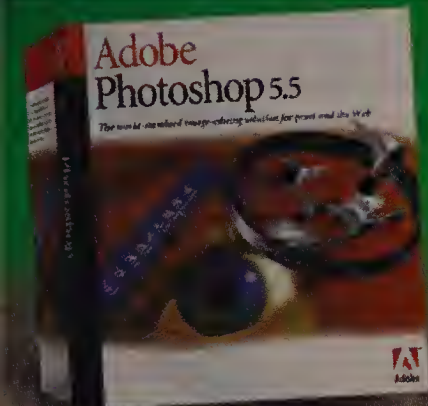
Upgrade as low as \$109⁹⁵!

after \$70 rebate.
Item #UPG1049

CALL FOR A **FREE**
FULL-COLOR
CATALOG!



Olympus • Epson • ATI • ViewSonic • Sony • Adobe • Macromedia



Adobe Photoshop 5.5

Upgrade only
\$109⁹⁵!
after rebate for
previous owners
of Photoshop 5.0 and ImageReady 1.0

- Multiple undo: Quickly undo or redo several steps.
- Magnetic Tools: Precisely follow the edges of an image.



Ask for item #UPG1049.

Adobe Photoshop 5.5 Upgrade
(from Photoshop v4.0 or earlier)

UPG1049 \$179.95

Adobe Photoshop 5.5 (Full Version)

GRA2951 \$599.95

Adobe Photoshop LE: GRA2973 \$99.00

*Price AFTER publisher's \$70 mail-in rebate for previous owners of Adobe Photoshop 5.0 or ImageReady 1.0. Before rebate: \$179.95. Rebate coupon included in box. Rebate must be postmarked no later than 5/15/2000 to qualify.

Adobe Collections!

Publishing Collection
(Photoshop 5.5, PageMaker 6.5 Plus, Illustrator 8.0, and Acrobat 4.0.)
Item #GRA2975 **\$949⁹⁵**

Web Collection
(Photoshop 5.5, GoLive 4.0, and Illustrator 8.0.)
Item #COM1215 **\$949⁹⁵**

Design Collection (Photoshop 5.5, InDesign, Illustrator 8.0, and Acrobat 4.0.) Item #GRA2974 **\$1589⁹⁵**

Dynamic Media Collection
(Premiere 5.1, After Effects 4.0, Photoshop 5.5, and Illustrator 8.0)
Item #GRA3007 **\$1489⁹⁵**

Adobe InDesign 1.5

New Version!

Upgrade only
\$99⁹⁵!
UPG1233

Full Version
Item #GRA3307 **\$699⁹⁵**

Free! **

Silvertone 1.5
Extended Process Separator
(by Intense Software)
with purchase of Adobe Photoshop 5.5. Item #AAA1020.
This Photoshop plug-in enables 5-color separations.

A \$249 Value!†

**\$3.95 shipping and handling applies. Shipped in promotional packaging on CD-ROM. HURRY! While supplies last.
†Value based on MacWAREHOUSE pricing as of this magazine printing.

COMPACT FLASH CARDS

- Digital film for storing pictures
- Compatible with all digital cameras

8MB Storage Card
Only **\$39⁹⁵!**
Item #MY7648

48MB Storage Card
Only **\$129⁹⁵!**
Item #MY10017

Digital film for your digital camera!

NEXUS 128 GRAPHICS ACCELERATOR

ATI

- Rage 128 graphics accelerator
- Supports high resolutions up to 1920 x 1200
- 32MB memory

Only **\$219!**
Item #DRI3236

Ultra Fast Graphic Accelerator Board!

IBM VIAVOICE MILLENNIUM EDITION

ViaVoice IBM

- Powerful speech recognition software
- Understands simple, natural, continuous speech!
- Easy installation means you'll be up and running in no time!

Only **\$74⁹⁵!**
Item #BUS1393

WWW.WAREHOUSE.COM

Get a **FREE*** gift when you order online.

Every time you order from our full line of Mac products on the Web, you can get a **FREE*** Gift! Choose from Myst CD, Hot Door Transparency and more!

*\$3.95 shipping and handling applies. Limit one per customer per order. Shipped in promotional packaging. While supplies last.

See our **BLOWOUT SPECIALS and SUPER OFFERS — every day!**
Place your order online by 11pm (E) and get it the next day!

Dreamweaver 3

Upgrade only
\$119⁹⁵!
UPG1157

- QuikTag Editor for editing code at the object level
- History Palette and "Repeat Last Action" feature
- Apply global styles and convert tables to layers

Full Version
Item #COM1301 \$279.95

Sony Digital FD83 Mavica

Was \$699.95:
Now only
\$599⁹⁵!
IN7856

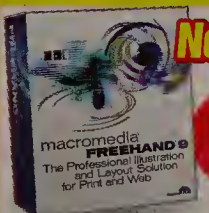


- XGA resolution 1024 x 768ppi, 1216 x 916 interpolated
- 3x Optical Zoom/6x Digital
- 4x High speed floppy disk
- Audio & Video out • 2.5" LCD

MPEG/VOIC
recording modes
included

SONY

Macromedia FreeHand 9



New Version!

Upgrade only
\$149⁹⁵!
UPG1199

Full Version
Item #GRA3252 \$389.95

Extended On-Site Support*

Here are seven great reasons to get complete system coverage:

1. Toll-Free Technical Help
2. Fast On-Site Support — uplifts manufacturer's warranty to on-site 100% coverage for qualifying products
3. Free Replacement if unit cannot be repaired!
4. No Deductible — 100% coverage on parts and labor!
5. 24-, 36-, and 48-Month Coverage — available from date of purchase!
6. Fully Insured — Program underwritten by an "A-Excellent" rated insurer
7. Fully Transferable — Even if you move or sell the equipment, full coverage remains in effect.

Service you can depend on! Consult the chart below to see which warranty best fits your needs:

Cost of Computer and/or Peripherals	Warranty Price (36 months)	Ask for item #
\$701 - \$1,200	\$149.99	MW3003
\$1,201 - \$2,000	\$189.99	MW3004
\$2,001 - \$3,000	\$219.99	MW3005

Call your Account Manager for terms and other pricing options.

Call your customer service representative to get extended support for just pennies a day!

*Note: This promotion is not a service agreement, but an outline of coverage available through Service Net. Please call Micro Warehouse, Inc. for information and read the complete Service Agreement from Service Net, for exact coverages, terms, and conditions. Coverage begins after a manufacturer limits its warranty in any way. Plan not available on international orders.

PAGE 9 OF 9

1-800-434-3036 ★ www.warehouse.com/md

ORDER TOLL-FREE 24 HOURS A DAY, 7 DAYS A WEEK! CANADA ORDERS CALL: 1-800-603-5139

MacWAREHOUSE EXPRESS DELIVERY OVERNIGHT!

Your #1 Source for Mac Systems and Products—since 1987!

In-stock items, call weekdays by midnight (E), or order online weekdays by 11pm (E).



Call by Midnight (E) for Overnight delivery!

New Apple® PowerBook up to an Incredible 500MHz!

With the PowerPC G3 processor running at up to 500MHz and built-in FireWire®, the new PowerBook gives you the performance and portability you need. It is an ideal choice for creative professionals, educators, and anyone else who needs performance to go.

Processor and Memory

- 400 or 500MHz PowerPC G3 processor—fastest performance ever in a notebook!
- 1MB backside Level 2 Cache; 160 or 200MHz dedicated 64-bit backside bus
- 64MB or 128MB RAM; 2 SO-DIMM slots support up to 512MB RAM

Storage

- Internal 6 or 12GB IDE hard drive
- DVD-ROM drive with DVD video play back
- Hot-swappable expansion bay supports CD-ROM, DVD, Zip, SuperDisk or hard drive

Expansion & Networking Ports

- 2 USB ports, 2 FireWire Ports, power adapter port
- Built-in 10/100BASE-T Ethernet
- RJ-11 modem port, 4Mbps Infrared (IrDA) port
- Support for a Zoom Video PC card

Graphics, Video & Sound

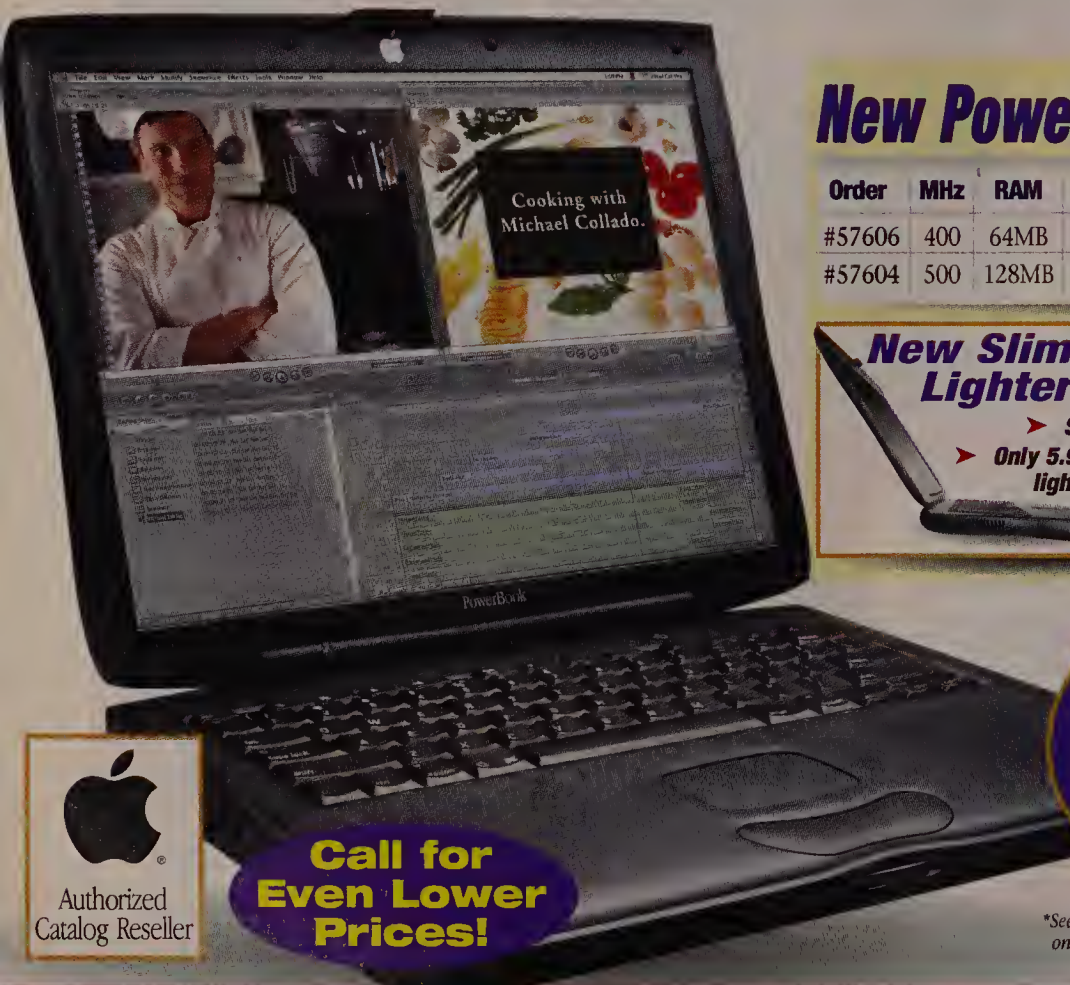
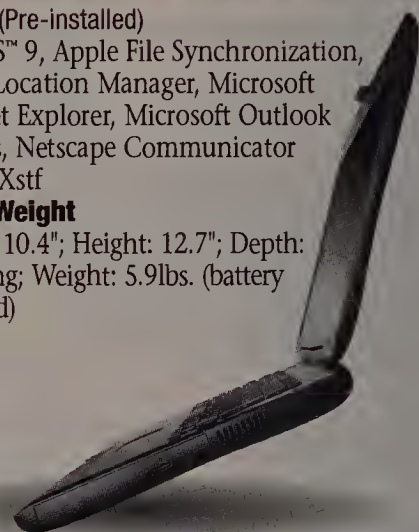
- 14.1 inch (diagonal) display features built-in TFT XGA active matrix display, supporting millions of colors at 1024 x 768 resolution

Software (Pre-installed)

- Mac OS™ 9, Apple File Synchronization, Apple Location Manager, Microsoft Internet Explorer, Microsoft Outlook Express, Netscape Communicator and FAXstf

Size and Weight

- Width: 10.4"; Height: 12.7"; Depth: 1.7" long; Weight: 5.9lbs. (battery installed)



**Call for
Even Lower
Prices!**

New PowerBook G3 Series!

Order	MHz	RAM	HD	Cache	Drive	Modem	Display	Price	Lease
#57606	400	64MB	6GB	1MB	DVD-ROM	56K	14.1" Active Matrix	\$2,494	\$70
#57604	500	128MB	12GB	1MB	DVD-ROM	56K	14.1" Active Matrix	\$3,494	\$98

New Slimmer and Lighter Design!

- Super slim profile
- Only 5.9lbs., nearly 2lbs. lighter than previous models!

Build To Order!
Don't see the configuration you want? Call your MacMall Account Executive to get a PowerBook the way you want it!

Apple Add-Ons

#49218	Apple AC Adapter	\$94 ⁹⁹
#47086	Apple Lithium-Ion Rechargeable Battery	\$149 ⁹⁹

**PowerBook
for as low as
\$70/month*
with the NEW
MacMall EZ
Payment
Plan!**

*See page 3 for details on the MacMall EZ Payment Plan

For more
USB
UNIVERSAL SERIAL BUS
peripherals.

**starting at
\$2,494**

#57606

Protect your investment with a New AppleCare Warranty from MacMall!

MacMall Exclusive! No Rebates—No Hassles!

up to **128MB RAM FREE** or up to
\$250 Instant Cash Back

with minimum purchase. See page 3 for details. Hurry! Offer expires 4/16/00.

*Memory is subject to a \$30 professional installation fee. Sales tax and shipping do not qualify as part of product price total. Valid only on regular in stock items—special order and clearance items do not apply. Not valid with any other offer. All offers are subject to change. MacMall Exclusive Offer only applies to items advertised in this catalog.



If Product Price is Between:	Exclusive Cash Savings	or	FREE RAM†
\$799-1199	\$25 Gift Cheque	or	Not Available
\$1200-1799	\$50 Cash Back	or	64MB
\$1800-2899	\$100 Cash Back	or	128MB
\$2900-3399	\$150 Cash Back	or	128MB
\$3400-4399	\$200 Cash Back	or	128MB
\$4400 +	\$250 Cash Back	or	128MB

Order Any Time! Open 24 Hours!
Order Today by 10 pm EST—
Get it Tomorrow by 10:30 am!

1-800-217-9492

New Apple® iBook up to a Screaming 366MHz!

New iBook Special Edition

It could only be the next generation of iBook—the computer that set a new standard for notebooks.

For those who want a little more, now there's the iBook Special Edition. It includes all the great features of the regular iBook models and it comes with 366MHz of processing power in a very stylish Graphite color. Blazing speed, dazzling design, and fast, easy access to the Internet have made the iBook incredibly popular.

Open up the iBook Special Edition and you'll enjoy the brilliance of a 12.1" TFT active-matrix color display. It's driven by a PowerPC G3 processor that runs at a whopping 366MHz and you get 64MB of built-in memory. Also inside are a 6GB hard drive, a built-in

CD-ROM drive and a high-performance ATI RAGE Mobility graphics accelerator.

- 366MHz processor
- Stylish Graphite Color
- 64MB RAM
- 6.0GB Hard Drive

366MHz
Graphite iBook
Special Edition
only \$1,794
#57635

*See page 3 for details on the MacMall EZ Payment Plan



Graphite iBook
Special Edition
for as low as
\$50/month*
with the NEW
MacMall EZ
Payment
Plan!



300MHz iBook
only \$1,594

● #57582 Blueberry ● #57584 Tangerine

Stunning style designed to go where you go!

Now iBook gives you more choices than ever. With twice the memory, twice the memory expandability, and nearly twice the hard disk capacity, there's even more to love about the new iBook. In addition, you can now get the new iBook Special Edition, which offers even more power in a very stylish Graphite color.

Impressive performance, low price!

Outrageous performance.

- 300MHz PowerPC G3 processor
- 512K level 2 cache on processor
- 64MB of SDRAM; supports 320MB
- 6GB IDE hard disk drive
- Built in 24X CD-ROM drive

Connectivity.

- One 12-Mbps (USB) port
- Built-in 10/100BASE-T Ethernet
- Built-in 56K modem
- Optional AirPort wireless networking

Advanced battery technology.

- Li-Ion battery with 6 hours of charge

Great graphics and video features.

- ATI RAGE Mobility graphics controller with 2X AGP for incredible 2D/3D performance
- 12.1" built-in TFT SVGA active-matrix display

Input controls.

- Solid-state Apple trackpad for precise cursor control; supports tap, double-tap and drag

Compact size.

- 6.6 pounds

Cool software.

- Mac OS 9

MacMall EZ Payment Plan!

NEW! Payment terms up to 48 months!

Now you can have low fixed monthly payments on consumer purchases of \$750 or more with the new MacMall EZ Payment Plan. It's fast and easy to apply for, and there are no application fees or prepayment fees. Call your Account Manager today, or apply online! You can complete your purchase in just minutes—and have your order tomorrow!

Financing available on approved credit arranged through MBNA America Bank, N.A. Payment does not include shipping charges and sales taxes if applicable. Estimated monthly payment is based on approximate 48-month term at an Annual Percentage Rate (APR) of 14.99%. Your APR may be higher. There are no transaction fees for MacMall purchases billed directly to your account. There is a transaction fee of 3% of the U.S. Dollar amount of each advance check you write (\$5 min/\$30 max), but there is no obligation to use advance checks.

macmall.com
Mention your Priority Code: #ZMW053

or AOL Keyword:
MacMall

Unbeatable G4!

The New Apple® Power Mac G4— Better and Faster than Ever!

Buckle up—the Power Mac G4 is here. It features the revolutionary PowerPC G4 processor with Velocity Engine, which crunches multimedia data at blazing-fast speeds. The Velocity Engine uses true independent vector processing—

Outrageous power

- PowerPC G4 processor running at 400, 450, or 500MHz
- Velocity Engine vector processing unit
- Full 128-bit internal memory data paths
- Powerful new floating point unit
- Data stream prefetching operations supporting four simultaneous 32-bit data streams
- 1MB of backside level 2 cache running at half the processor speed
- 100MHz system bus
- 64, 128 or 256MB RAM
- Supports up to 1.5GB of high performance PC100 SDRAM

a technology originally developed for use in scientific supercomputers. The G4 was developed for creative professionals who use computers as the pivotal tool of their trade. With its Pentium-crushing speed and convention-crushing design, the G4 is so

- 10, 20 or 27GB Ultra ATA hard disk
- DVD-ROM drive or DVD-RAM drive
- 100MB Zip drive (some configurations)
- Built-in 10/100BASE-T Ethernet networking; optional Gigabit Ethernet

Advanced capabilities

- Three 400Mbps FireWire ports
- Two USB ports—up to 127 devices at once
- Optional AirPort wireless networking card
- Two additional internal drive bays
- Three 64-bit PCI slots
- Now enhanced for Adobe Photoshop
- Includes Mac OS 9

powerful that its speed is measured in gigaflops, or billions of floating point operations per second. Almost no other desktop computer can beat its performance, especially when running the applications creative professionals use most.

Great graphics and video features

- ATI RAGE 128 Graphics Accelerator with 16MB of SDRAM graphics memory
- Support for up to 1,920 by 1,200-pixel resolution at 32 bits per pixel (millions of colors) and up to 85Hz refresh rate
- Hardware acceleration of graphics and video
- Advanced integrated triangle setup engine
- Single-pass multi-texturing design

Design elegance

- Translucent silver and graphite case
- Easy, drop down accessibility for installing cards, drives, and memory
- Convenient, built-in handles for easy carrying

For our full line of
USB
UNIVERSAL SERIAL BUS
peripherals.



Authorized
Catalog Reseller

Own
this Apple
PowerMac G4
for as low as
\$45/month*
with the NEW
MacMall EZ
Payment
Plan!

Monitor sold separately.

New G4s! Starting at only

\$1,594 #57609

Call for even lower price!

Monitor sold separately.

*See page 3 for details on the
New MacMall EZ Payment Plan.

Order Any Time! Open 24 Hours!
Order Today by 10pm EST—
Get it Tomorrow by 10:30am!

1-800-217-9492

up to 500MHz

MacMall Exclusive! No Rebates—No Hassles!

up to **128MB RAM FREE**

or up to **\$250 Instant Cash Back**
with minimum purchase.

See page 3 for details. Hurry! Offer expires 4/16/00.

If Product Price is Between:	Exclusive Cash Savings	or	FREE RAM†
\$799-1199	\$25 Gift Cheque	or	Not Available
\$1200-1799	\$50 Cash Back	or	64MB
\$1800-2899	\$100 Cash Back	or	128MB
\$2900-3399	\$150 Cash Back	or	128MB
\$3400-4399	\$200 Cash Back	or	128MB
\$4400 +	\$250 Cash Back	or	128MB

†Memory is subject to a \$30 professional installation fee. Sales tax and shipping do not qualify as part of product price total. Valid only on regular in stock items—special order and clearance items do not apply. Not valid with any other offer. All offers are subject to change. MacMall Exclusive Offer only applies to items advertised in this catalog.



AirPort Hardware Access Point 1.1

No wires. No cables.
Makes networking easy!

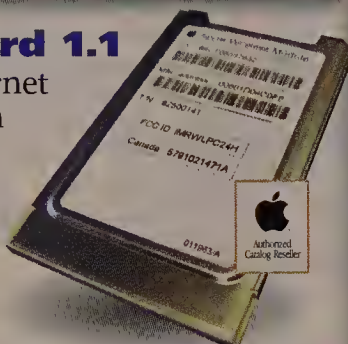
only
\$299⁹⁹
#57373



AirPort Card 1.1

Bring the Internet
to every room in
your house!

only
\$99⁹⁹
#57369



New Power Mac G4s!

Protect Your Investment:

Get a NEW AppleCare Service Plan with your G4!



	Fast!	Faster!	Fastest!
Order#	#57609	#57611	#57613
MHz	400MHz	450MHz	500MHz
RAM	64MB	128MB	256MB
Hard Drive	10GB	20GB	27GB
Multimedia	DVD-ROM	DVD-ROM	DVD-RAM
Zip Drive	N/A	Yes	Yes
Modem	56K	56K	N/A
Price	\$1,594	\$2,494	\$3,494
Or As Low As	\$45/month*	\$70/month*	\$98/month*

Call for Even Lower Prices!

*See page 3 for details on the New MacMall EZ Payment Plan.

Build to Order!

Don't see the configuration you want?
Call your MacMall Account Executive to
get your Power Mac the way you want it!

macmall.com

Mention your Priority Code: #ZMWD053

or AOL Keyword:
MacMall

Stylus Color 900G Printer
only **\$279⁹⁹** #51324
Price reflects a \$100 mail-in rebate w/CPU purchase. Reg. price is \$379⁹⁹.

AppleWorks 6
only **\$79⁸⁹** #814264
New Version!

UMAX Astra 4000U
1200x2400dpi Scanner
only **\$399⁹⁹** #52476

Apple 17" Studio Display
only **\$499⁹⁹** #51582

SONY DCR-TRV900 3 CCD Digital Camcorder
\$2,299 #37986

Adobe Photoshop 5.5 Upgrade
only **\$114⁹⁹** #47478
Price reflects \$70 mfr. mail-in rebate for Photoshop 5.0 and ImageReady 1.0 owners. Reg. price \$184.99.

HP LaserJet 4050 USB Mac Laser Printer
only **\$1,199** #56279

VIKING COMPONENTS Don't Forget the Memory!
#42224 64MB PC100 DIMM \$134⁹⁹
#42225 128MB PC100 DIMM \$253⁹⁹
#42226 256MB PC100 DIMM \$552⁹⁹

Have your RAM professionally installed by one of our factory-trained technicians for only \$30. Ask for #2214. Call for details on the full line of Viking Memory. Prices are valid at time of press and are subject to change due to market fluctuations. Please call for most current pricing.

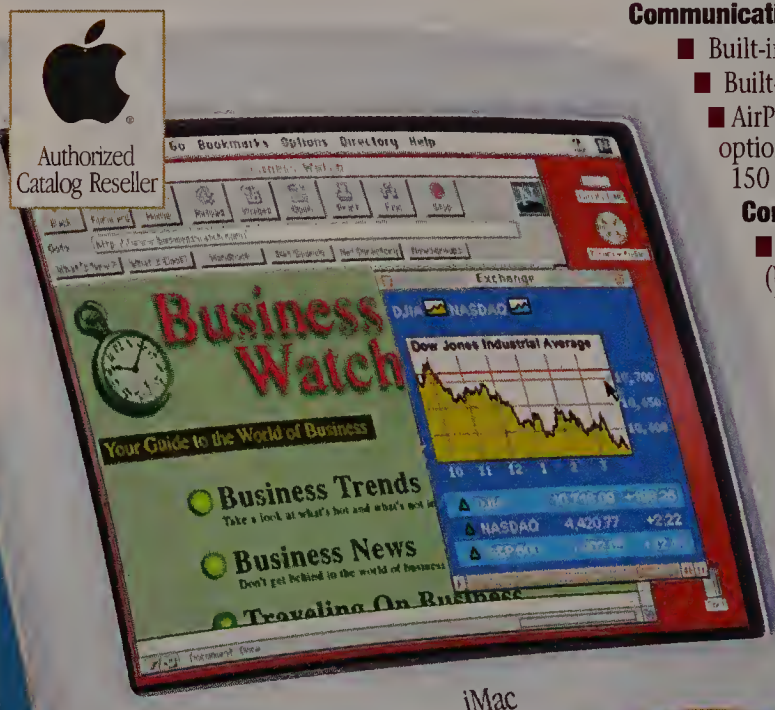
MacMall

New Apple® iMacs St

iMacs for the new Millennium— 400MHz, Digital Video, Stereo Sound!

Start out the millennium right, with the most popular computer in the world—the Apple iMac™.

The translucent, incredibly easy to use iMac is cause for celebration. With speeds up to 400MHz, the iMac is the best choice for playing games, listening to music and searching the Web with Apple's Sherlock 2. And with iMac DV models, not only can you watch movies, you can finally make your own.



Processor and Memory

- 350 or 400MHz Power PC G3 Processor
- 512K backside level 2 cache on processor module
- 100MHz system bus
- 64 or 128MB of PC100 SDRAM; two SODIMM slots support up to 512MB
- 64-bit memory bus

Storage

- Internal 6, 10 or 13GB Ultra ATA hard disk drive
- Internal 24X (maximum) slot-loading CD-ROM drive or DVD-ROM Drive (DVD is in DV models only)

Communications

- Built-in 56K V.90 modem
- Built-in 10/100BASE-T ethernet
- AirPort wireless networking slot for optional AirPort card; runs at 11Mbps with 150 foot maximum range

Connectivity

- Two high speed Universal Serial Bus (USB) ports (12 Mbps), which support USB devices such as keyboard, mouse, printer, storage devices, and USB hubs
- Two 6-pin FireWire ports running at up to 400Mbps (DV models only)

Multimedia capabilities

- Built-in 15" shadow mask CRT (13.8-inch diagonal viewable image size), .28mm dot pitch
- Three crisp resolutions: 640 X 480 pixels at 117Hz; 800 X 600 pixels at 95Hz; 1024 X 768 pixels at 75Hz
- ATI RAGE 128 VR accelerated 2D/3D graphics controller with 8MB video memory and AGP 2X support
- 24-bit true color at all resolutions for displaying millions of colors
- Refresh rate of up to 117Hz

Outstanding Audio Features

- Integrated high-performance Odyssey audio system from Harman Kardon
- Built-in microphone for speech recognition and audio recording
- Front mounted, dual mini-headphone jacks
- Minijacks for 16-bit CD-quality stereo input/output; 44.1-kHz sampling rate
- Supports external USB audio devices

Video (DV models only)

- Standard VGA 15-pin mini D-sub output port
- Supports video mirroring (external devices display an image identical to that shown on the built-in display)

Software

- Mac OS pre-installed
- AppleWorks, Adobe PageMill, much more!

350MHz iMac
only \$999

#57155 (Blueberry only)

64MB RAM; 6GB Hard Drive;
24X CD-ROM Drive; 56K modem

*See page 3 for details on the
MacMall EZ Payment Plan

**Own
this iMac
for as low as
\$28/month*
with the NEW
MacMall EZ
Payment
Plan!**

FREE! With Your
iMac Purchase!
IntelliNews

News, weather,
sports and more,
delivered right
to your desktop!

a '19⁸⁹ value!

New!

See page 61
for more
information.

**Aladdin
Systems**

News, Weather, Sports & More
Delivered Right to Your Desktop



IntelliNews
The News You Need, When You Need It

MacMall Exclusive! No Rebates—No Hassles!

up to **128MB RAM FREE** or up to
\$250 Instant Cash Back

with minimum purchase. See page 3 for details. Hurry! Offer expires 4/16/00.

MacMall is subject to a \$30 professional installation fee. Sales tax and shipping do not qualify as part of product price total. Valid only on regular in stock items—special order and clearance items do not apply. Not valid with any other offer. All offers are subject to change. MacMall Exclusive Offer only applies to items advertised in this catalog.



If Product Price is Between:	Exclusive Cash Savings	or	FREE RAM†
\$799-1199	\$25 Gift Cheque	or	Not Available
\$1200-1799	\$50 Cash Back	or	64MB
\$1800-2899	\$100 Cash Back	or	128MB
\$2900-3399	\$150 Cash Back	or	128MB
\$3400-4399	\$200 Cash Back	or	128MB
\$4400 +	\$250 Cash Back	or	128MB

Order Any Time! Open 24 Hours!
Order Today by 10 pm EST—
Get it Tomorrow by 10:30 am!

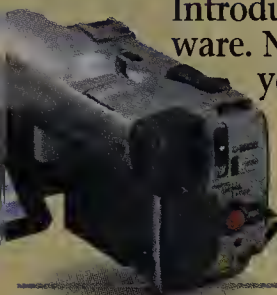
1-800-217-9492

Starting at \$999!

The iMac Meets the Movies!

Introducing iMovie software. Now you can make your own movies!

The iMovie software is pre-installed on all DV iMacs and allows you to rearrange scenes. Cut out boring parts, cut and paste text and graphics and add sound and music! All you need to do is connect your camcorder to your iMac's built-in firewire port and launch the iMovie software! Ready, set, action!



Canon Ulitura Mini DV Camcorder
only \$949⁹⁵ #48822

400MHz Apple® iMac DV Models

Want to play movies or even make some of your own? An iMac DV model is your personal theatre for viewing DVD movies. Simply connect your favorite DV camcorder to the FireWire® port and use

Apple's groundbreaking iMovie software to create your own digital movies. And iMac DV models include built-in video mirroring for making presentations!

only \$1,294!

All models include:

- 400MHz ➤ 64MB RAM ➤ 10GB HD
- 56K Modem ➤ 10/100BASE-T
- #57158 Grape • #57156 Tangerine
- #57159 Strawberry • #57309 Lime
- #57160 Blueberry



For our full line of USB peripherals, see pages 12-16

Own this iMac DV for as low as \$36/month* with the NEW MacMall EZ Payment Plan!

*See page 3 for details on the MacMall EZ Payment Plan

Apple® iMac DV Special Edition

For those who want a little more, there's the iMac DV Special Edition.

It includes all the great features of the iMac DV models and it comes in a see-through graphite color. Plus, it has twice the standard RAM and a larger hard drive than the iMac DV models.

- 128MB of SDRAM; two SODIMM slots support up to 512MB
- Internal 13GB Ultra ATA hard disk drive

iMac DV Special Edition

only \$1,494

#57184 (Graphite)

*See page 3 for details on the MacMall EZ Payment Plan

Own this iMac DV Special Edition for as low as \$42/month* with the NEW MacMall EZ Payment Plan!



HP DeskJet 932C Printer
only \$199⁹⁹ #57053
\$50 rebate w/CPU

Video FX Video Capture Suite
only \$119⁹⁹ #56616



Norton AntiVirus 6.0
only \$4⁹⁹ after rebates #48587
SYMANTEC

3 Piece Speaker Set
only \$69⁹⁹ #52911



SnapScan 1212UB Scanner-iMac Blue/Green
only \$79⁹⁹ #41512



External USB Floppy Drive w/FREE Color Kit
only \$89⁹⁹ #54835
VST TECHNOLOGIES Incorporated



iSweetNet USB Scrolling Mouse
only \$29⁹⁹ #54919
macally



VIKING COMPONENTS Don't Forget the Memory!
#42224 64MB PC100 DIMM \$134⁹⁹
#42225 128MB PC100 DIMM \$253⁹⁹
#42226 256MB PC100 DIMM \$552⁹⁹

Have your RAM professionally installed by one of our factory-trained technicians for only \$30. Ask for #2214. Call for details on full line of Viking Memory. Prices are valid at time of press and are subject to change due to market fluctuations. Please call for most current pricing.

MacMall

macmall.com
Mention your Priority Code: #ZMW053

or AOL Keyword: MacMall

If You Don't See it

MacMall has the best prices on USB peripherals for the iMac™, iBook™, PowerBook G3, Power Mac G3 and G4!

Stylus® Color 740i Printer

The awesome Inkjet in iMac and iBook Custom Colors

\$129⁹⁹*

#482226
Reg. price \$179
- \$50 mail-in rebate.



EPSON

NEW! Stylus Photo 870 6-Color Printer

New ink and paper makes printouts fade- and water-resistant.

\$299⁹⁹

#57323



EPSON

Stylus Scan 2000 All-in-One Printer/Scanner/Copier

- ▶ Up to 1440 x 720 dpi
- ▶ 6 ppm black, 5 ppm color
- ▶ 36-bit color depth

\$289⁹⁹

#51645



EPSON

HP DeskJet 952C USB Printer

\$299⁹⁹

#57154

\$50 Rebate w/CPU Purchase!



BELKIN

4 Port USB Hub

Provides instant expandability that is as simple as plugging in a USB connector!

\$24⁹⁹

#54763



WACOM

New!

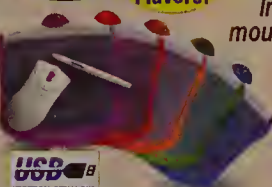
Now in all 5 iMac Flavors!

Candy-Colored 4" x 5" USB Graphire Tablets

Includes cordless mouse and pressure sensitive pen

\$99⁹⁹

#56037 (blueberry)



Que! 4x4x8 CD-RW Drive

The revolutionary USB interface CD-RW drive allows iMac users to easily record, erase and rewrite CD's again and again at 4X Write and 4X Rewrite speeds.

Includes a FREE Carrying Case!

\$319⁹⁹

#56374



UMAX

Astra 4000U USB Scanner

- ▶ 42-bit resolution ▶ 1200 x 1200dpi
- ▶ Legal size scan area ▶ Includes: Adobe Photoshop LE, VistaScan 3.5, Caere OmniPage LE and more

was \$499

Now Only

\$399⁹⁹

#52476

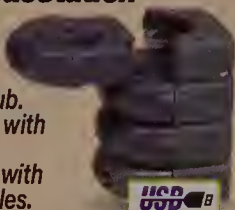


NEW! USB BusStation™

Create your own custom configured USB multi-function hub. Comes standard with 7-port hub, interchangeable with other USB modules.

\$99⁹⁹

#54093



Kodak DC240i Digital Camera

Available in five iMac colors! Includes 8MB Picture Card. Serial & USB Compatible.

\$549⁹⁹

#54131 Blueberry

Call for compatibility update.



New!



iREZ Kritter USB Camera

\$129⁹⁹

#56642

New!



NEW! ScanMaker V6 UPL USB Legal-Size Scanner

Includes a bonus 35mm scanning accessory and features ScanWizard 5 controller software and a GO button on the scanner.

\$139⁹⁹

#54867



2.2GB ORB External Drive

The First High Capacity USB Removable Hard Drive!

\$279⁹⁹

#44416



New! Zip 250MB USB Zip® Drive!

It's small, sleek and portable.

- ▶ Hot swappable USB
- ▶ Uses both 100MB and 250MB Zip disks

\$179⁹⁹

#52012



VST TECHNOLOGIES

NEW! External USB Floppy Drive with Color Panels

Color panels included FREE!

Hot swappable USB interface; no AC adapter required

\$89⁹⁹

#54835



SuperDisk Drive!

Twice as fast! Reads & writes both 120MB SuperDisk diskettes and standard HD 3.5" diskettes.

\$149⁹⁹

#46876



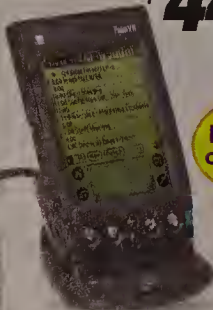
Great peripheral deals for your serial and SCSI Macs!

NEW! Palm VII Organizer!

Wireless Internet Access with MacPac

\$449⁹⁹

#56396



New Low Prices on Palm IIIx, V & Vx



La Cie External 12x4x32 SCSI CD-RW Drive!

Create your own music or data CDs.

- ▶ 12X record speed
- ▶ 2MB data buffer

\$419⁹⁹

#54003

HP LaserJet 2100M Printer factory refurbished!

- ▶ True 1200 x 1200 dots per inch offers exceptional detail
- ▶ 10 pages per minute
- ▶ HP PCL 6 w/HP PostScript Level II emulation

\$549⁹⁹

#53920



SAVE \$230!



EPSON

SAVE \$100!

Stylus 1520 Color Printer!

\$399⁹⁹

#57024

Factory refurbished.

Exclusive Offer!

PowerLook II Scanner with Transparency Adapter

High-end scanning at an incredible price; 36-bit color; 600 X 1200dpi; SCSI 2

\$399⁹⁹

#56326

Factory refurbished. 90-day warranty.



Order Any Time! Open 24 Hours!
Order Today by 10 pm EST—
Get it Tomorrow by 10:30 am!

1-800-217-9492

Call Us!

Be the First to get the Latest Products!

AppleWorks 6

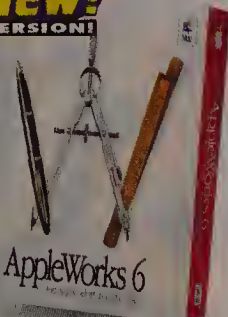
The latest version of the most popular program on the Mac! It includes everything you need for word processing, database, spreadsheet, presentation, drawing and painting! **only**

\$79⁸⁹

#814264



New!
VERSION!



MacInTax Deluxe 99

The #1 tax software now includes **FREE** MacInTax State! Buy both MacInTax Deluxe and State, and redeem the purchase price of MacInTax State via mfr. mail-in rebate in box. **only**

\$49⁹⁵

#52757

#52944 MacInTax State CA \$27⁹⁵

#52947 MacInTax 32 Multi-State \$27⁹⁵

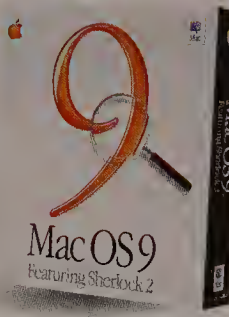


MAC OS 9

New! Exclusive access to Apple's iTools available to Mac OS 9 users. **\$68⁹⁹**

#49794
After \$20 mfr. mail-in upgrade rebate for owners of Mac OS 8.5 or 8.6.

Mac OS 9 is the ultimate upgrade for anyone on the Internet and those who want to be!



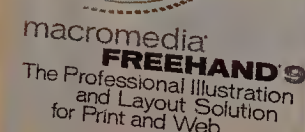
New FreeHand 9 and Flash Studio

New!

FreeHand 9 and Flash Studio Upgrade **only**

\$179⁹⁹

#56670



FreeHand 9—The Professional Illustration and Layout Solution for Print & Web!

Flash 4—Produce Suites with Full Design Fidelity!

#56668 FreeHand 9 & Flash Studio Full Version	\$469 ⁹⁹
#48208 FreeHand 9 Upgrade	\$139 ⁹⁹
#48080 FreeHand 9 Full Version	\$369 ⁹⁹
#46851 Flash 4 Upgrade	\$119 ⁹⁹
#46850 Flash 4 Full Version	\$278 ⁹⁹



QuarkXPress 4.1

Over 75 new features and enhancements!

New!
Update

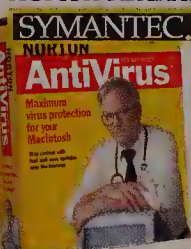
\$749⁹⁹

#55401



Save \$20 when You Buy Norton AntiVirus 6.0 with MacInTax Deluxe!

Norton AntiVirus 6.0



\$24⁹⁹

Hurry!
Offer expires 4/15/00!

*Price after \$40 upgrade/crossgrade/competitive upgrade rebate for users of NUM, NAV, VirusScan and Virex. And an additional \$20 cash back (via mfr. mail-in rebate when you buy NAV 6.0 with MacInTax Deluxe. Offer valid 12/4/99 — 4/15/00. Coupon must be redeemed by 5/15/00.

#48587

Triple Your System Memory! RAM Doubler 9

Run more applications!

\$44⁸⁹

#54716
Updated for compatibility with Mac OS 9.

New!



Yellow Dog Linux Champion Server 1.1

for Power PC speed, stability, and security!

\$87⁹⁹

#51823

New!
VERSION!

Designed for mission critical operations that demand the most of your operating system...



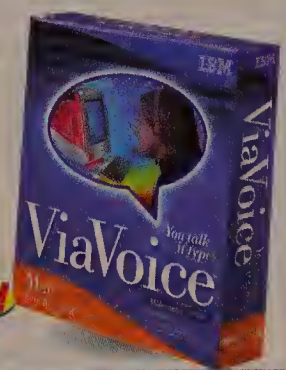
ViaVoice Millennium Edition 1.1

The first continuous speech recognition software for the Mac!

\$74⁹⁹

#53629
Control your Mac with your voice!

New!



Norton Utilities 5.0 for Macintosh

The essential problem solver!

\$44⁹⁹

#48932
*Price reflects \$50 mail-in rebate previous users and NAV users.



We do our best to be accurate, but occasionally mistakes occur. We are not responsible for any typographical, photographic or technical errors. Products and packaging may differ from stock available at time of shipment; we reserve the right to substitute equivalent items.

1000'S OF OUR MOST POPULAR GAMES!



Rainbow Six
\$44⁸⁹
#52640



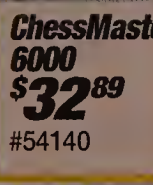
Quake Arena III
\$49⁸⁹
#52452



Fly
\$29⁹⁹
#47953



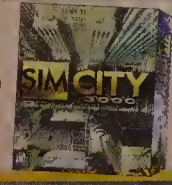
Nightfall
\$19⁹⁹
#45562



ChessMaster 6000
\$32⁸⁹
#54140



SimCity 6000
\$44⁸⁹
#52674



Unreal Tournament
\$44⁸⁹
#813606



Sid Meier's Alpha Centauri
\$44⁸⁹
#53778



Introducing the **Mac Software & Accessories Buyers Guide!**



Call For Yours Today!
1-888-425-MALL
Visit Our Online Catalog at software.macmall.com

macmall.com or AOL Keyword: MacMall

Mention your Priority Code: **#ZMWD053**

MacMall

G4 special plug-in makes Photoshop run faster!

Adobe Photoshop 5.5

SAVE \$70!

UPGRADE
\$109⁹⁷
#83084

*After \$70 mfr. mail-in rebate for owners of Photoshop 5.0 & Image Ready 1.0. Low Zone price: \$179.97

Get fast access to 20.4GB of information!



LaCie FireWire 20.4GB Hard Drive

ONLY
\$469⁹⁹
#109210

The perfect personal imaging companion!



Canon ELURA Mini DV Camcorder

ONLY
\$1499
#111854

Professional Quality Desktop Movies!



Final Cut Pro 1.2

ONLY
\$999⁹⁹
#114835

Ultra-convenient storage!



Iomega USB Zip 250 Drive

#37186 Zip Media10-Pack...\$79.99*
*After \$10 mfr. rebate. Zone price \$89.99.

ONLY
\$179⁹⁹
#650368

Power Mac Starting At
\$1594⁹⁸

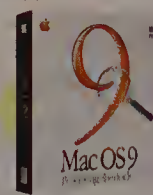
Own a Power Mac G4 and 17" Studio Display
Starting at only \$48^{MO}

with the Apple Loan Program!
Call to apply today!

Best Selling Apple Display!

Apple Studio 17" Display (16.0" viewable) **\$494⁹⁸**
#109996

#109995 Apple Studio 21".....\$1494.98



G4s now include

Pick the Power Mac G4 that's right for you!

Processor	Hard Drive	RAM Std/Max	Backside Cache	Optical Drive	Modem	Zip® Dr.	Item #	ONLY	Lease
G4/400MHz	10.0GB Ultra ATA-66	64MB/1.5GB	1.0MB at 175MHz	DVD-ROM (read only)	56K Int.	—	#116013	\$1594.98	\$56
G4/450MHz	20.0GB Ultra ATA-66	128MB/1.5GB	1.0MB at 200MHz	DVD-ROM (read only)	56K Int.	Yes	#116014	\$2494.98	\$88
G4/500MHz	27.0GB Ultra ATA-66	256MB/1.5GB	1.0MB at 225MHz	DVD-RAM (read/write)	—	Yes	#116015	\$3494.98	\$123

*Business Lease: 36-month, fair-market value lease based on approved credit. Other leasing options available. Leases require a minimum order of \$1000. Call 1-800-611-9751 for details.

For Better Performance...Upgrade your Power Mac's Memory!

Power Mac G4 Memory

64MB Upgrade
#521391 **\$79⁹⁹***

128MB Upgrade
#521392 **\$169⁹⁹***

*After Rebate. Call for latest pricing.

AppleCare ~~90 days~~ **Get 3 YEARS**

Protection Plan **of Apple Phone Support with AppleCare**

ONLY \$248⁹⁶ #112694

- ✓ TechTool Deluxe diagnostic software included to fix most problems - \$69 Value
- ✓ Exclusive access to AppleCare Web support site
- ✓ Upgrade from 1 to 3 years of Apple-certified service, both parts and labor
- ✓ VALUE... Includes Apple Display coverage when purchased with a Power Mac G4 on the same invoice

Go Wireless!

AirPort Base Station

ONLY \$294⁸⁸ #110920

- Features 56K modem port and 10Base-T Ethernet port
- Supports up to 10 AirPort connections
- Easy to set up

AirPort Card

ONLY \$99⁹⁸ #110919

- Wireless connections up to 150 feet
- 11 Mbps data rate

QuarkXPress 4.1

ONLY \$298⁹⁸ #104526

Over 75 new features!

NORTON AntiVirus 2000

Save \$40!

ONLY \$19⁹⁸* #652997

*After \$40 mfr. mail-in rebate for upgraders. Low Zone price \$59.98.

Fuji 5-Pack Zip Disks With FREE Case!

ONLY \$39⁹⁸* #88195

*After \$10 mfr. mail-in rebate. Low Zone price \$49.98.

HP LaserJet 4050N

ONLY \$1379⁹⁷ #617964

High-speed, versatile workgroup printing!

HP 970Cse Printer

ONLY \$399⁹⁹ #110974

Fast, high-quality printing!

FAST Power Macs!

Macworld Tokyo 2000!

Apple® Power Mac™ G4

Performance
Now Up To **500MHz**
State-of-the-Art Technology

Power Hard Drive
27GB
ULTRA-ATA/66

Graphics
2x AGP
ATI RAGE 128 Pro

*The super computer for
the rest of us just got more super!*

Besides boosting the speed of the G4 processors by 50MHz, Apple has upped the speed ante with faster hard drives and a high performance ATI Rage 128 Pro 2X AGP graphics board, all without raising the price. Whether you're a designer or someone who just craves the latest, greatest computer gear, we have it for you at Mac Zone. Order online or call us today!



Authorized
Catalog Reseller

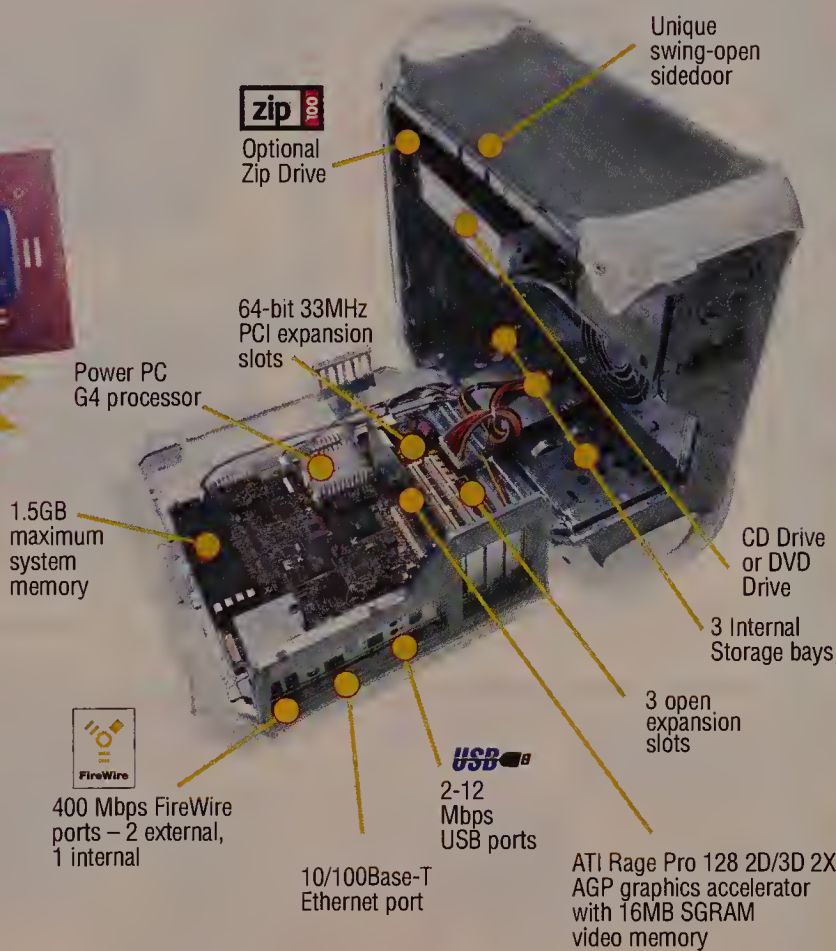
**Turn the ultimate personal
computer into YOUR
ultimate machine!**

Already a stunning 100% to 200% faster than Pentium III based PCs*, the Power Mac G4 lets you add faster hard drives and controllers, memory, video accelerators and more to suit your need for speed. Just flip the easy open latch, and you have ready access to customize the Power Mac G4 to your heart's content. Order today and put a super-computer on your desk tomorrow!

*In CPU and Photoshop tests.

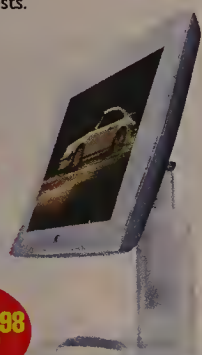


**G4 IS
200%
FASTER
THAN THE PENTIUM
PROCESSORS!
TESTS PROVE IT!**



Unique
swing-open
sidedoor

**Brand New
Graphite!**



Apple
Studio 15"
Flat Panel
Display

**ONLY
\$1294⁹⁸
#114856**

EPSON

**Print it.
Scan it.
Copy it.
Create it.**

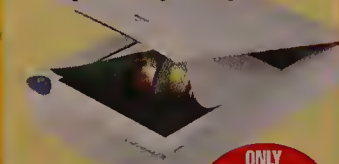
Stylus Scan
2000 USB All-In-One

**Laser designed for
the iMac!**

**ONLY
\$399⁹⁹
#111461**

EPL-5700i USB Laser Printer

**Includes
transparency adapter!**



Epson Perfection
1200U USB
Photo Scanner

**ONLY
\$349⁹⁹
#111453**

**FREE FaxSTF
Software!**
While supplies last.



Apple Int.
56K V.90
Faxmodem for G3

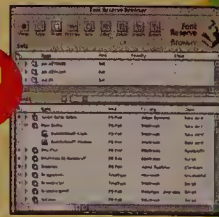
**BLOW
OUT
PRICE!**

**\$29⁹⁹
#102936**

**"This is the best font-
management program
on the market."** Publish 8/99

**ONLY
\$39⁹⁹
#113038**

Font Reserve
2.5 Upgrade



EXCLUSIVE!



**Up To \$150
Instant
Rebate!**

Call now for
complete
details!

on select Apple computers with
purchase of hand-held PDA.

Limited time offer.
Offer subject to change.

**Mac Must-
Have!**



**UPGRADE
\$249⁹⁷
#55870**

**SAVE
Over \$719!**



**ONLY
\$948⁹⁷
#108214**

Includes: • Photoshop • Illustrator
• PageMaker Plus • Acrobat

**\$200
Price Drop!**



**ONLY
\$1299⁹⁹
#111855**

~~WAS \$1499~~

Olympus C2500 Digital Camera

**Revolutionary interface
boosts read and
write speeds!**

**ONLY
\$399⁹⁹
#115183**



QPS 8X4X32X
External FireWire CD-RW

Corporate bids welcome!
Fax to 1-888-239-2591

A NASDAQ® COMPANY Ticker Symbol: MZON

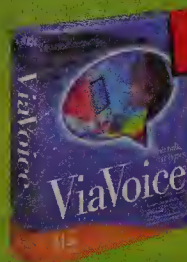
Source Code
MW050

Order by Phone
1.800.436.0606

Order Online Today

Zones.com™

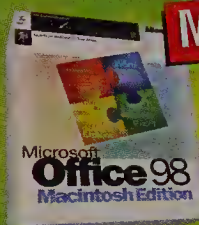
Best Sellers!



NEW!

IBM ViaVoice
"BEST OF SHOW"
Macworld Expo
San Francisco 2000

#664668 **\$74.99**



Mac Must Have!

Office 98
Upgrade
Mac Edition
#55870 **\$249.97**

#105073 MS Office 98 for Mac... \$419.97

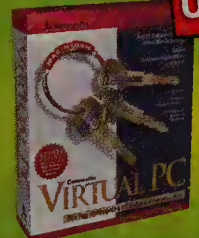


SAVE \$20!

NEW Version
for Mac!

#653343 **\$39.95***

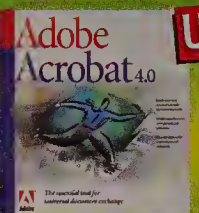
*After \$20 mfr. upgrade mail-in rebate.
Low Zone price \$59.95



USB Compatible

Virtual PC
3.0
with Win 98

#654332 **\$169.98**

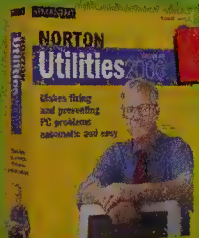


Upgrade Now!

Acrobat
4.0 Upgrade

#83063 **\$89.98**

#93952 Acrobat 4.0 - Full Version... \$219.98



SAVE \$50!

Norton
Utilities
5.0

#652996 **\$44.99***

*After \$50 mfr. mail-in rebate
for previous Norton owners.
Low Zone price \$94.99.

New at Zones!

Yellow Dog LINUX
for the PowerPC
Call for details.

ONLY
\$59.99
#111130

FREE Upgrade!*

to Apple G3 & G4
SCSI Card
Fulfilled
by Microtek



Microtek
ScanMaker X6-EL *While supplies last.

ONLY
\$149.99
#18400

SPECIAL
PURCHASE!

Great,
value-priced
laser for home
or office!

HP LaserJet 2100M
Refurbished.



ONLY
\$599.99
#107285

Reliability you can trust for
your data storage!

ONLY
\$39.99
#21258



FUJIFILM
CD-R 25-pack. Platinum with cases.

Get high-performance
& Sony quality!



SONY Spressa USB Ext. 4X/2X/6X* CD-RW
*maximum variable speeds

ONLY
\$289.98
#609482

Cutting-edge technology
in a value-priced display!



ONLY
\$269.99
#661363

NEC fe700
17" Monitor

ONLY
\$99.99
#99496



Adds an
external SCSI port
to your new Power Mac
Adaptec Internal SCSI Card

Our Best Selling Mac Modem!



ONLY
\$99.99
#60339

Global Village
Teleport 56K V.90 Fax/Modem

Capture
great
home
videos!



ONLY
\$999.99
#111852

Canon ULTRA
Mini DV Camcorder

ONLY
\$49.99*
#108005



Global Village
USB Mac Modem
*After \$40 mfr. mail-in rebate. Low Zone price \$89.99



ONLY
\$129.98
#95251

Easy-to-use storage!
Iomega Zip® 100 Portable USB Drive



ONLY
\$789.99
#608570

New advanced photo
features - 2.11 megapixels!
Nikon CoolPix 950

ONLY
\$799.99
#667939



Zoom in on great pictures!
2X Digital Zoom Olympus C-2020 Zoom
Digital Camera. Includes remote control!

EPSON®

SAVE \$50!

Rich,
detailed
color
printing!



NOW ONLY
\$99.99*
#31720

Stylus 740 Color Inkjet Printer
*After \$50 mfr. mail-in rebate.
Low Zone price \$149.99. Rebate expires 7/31/00

SAVE UP TO \$100!

High
performance
and brilliant
output!



AS LOW AS
\$279.99*
#110986

Epson Stylus 900G
*After \$100 mfr. mail-in rebate with
purchase of CPU OR \$50 rebate if purchased
alone. Rebates expire 7/31/00.

Sharp laser
printing for
your Mac!

SAVE \$50!

ONLY
\$349.99*
#111461



Epson EPL 5700i
USB Monochrome Laser Printer
*After \$50 mfr. mail-in rebate. Low Zone price
\$399.99. Rebate expires 7/31/00



NEW!

Great speed
at budget
savings!

HP DeskJet 842



ONLY
\$149.99
#116302

ONLY
\$759.97
#102384

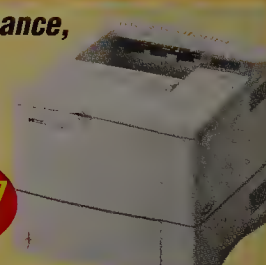
1200x1200 dpi - 10ppm!
HP 2100M Printer



High-performance,
versatile
network
printing!

ONLY
\$1379.97
#617964

HP Color LaserJet 4500N Printer



we're open
24 hours a day
7 days a week



Credit cards are not charged until the order is shipped. Most products ship the same day (barring system failure, etc.). Shipping options include Ground, 2nd Day and Overnight delivery. Freight is based on average product weight. Handling extra. Insurance available. Special orders may require special shipping and handling charges. Call for international shipping rates. Prices and product availability subject to change without notice. Specials and promotions may be limited to stock on hand. Not responsible for typographical errors. All products sold by Multiple Zones International (MZI) are third party products and are subject to the warranties & representations of the applicable manufacturers, including but not limited to Y2K compliance. Accordingly, MZI makes no representation or warranty with respect to Y2K compliance of product sold. ©2000 Multiple Zones International Inc. All rights reserved. Unauthorized duplication is a violation of applicable laws. Apple, the Apple logo, Macintosh® and PowerBook® are registered trademarks of the Apple Computer, Inc.

New iBooks!



Mac Zone Exclusive!

FREE AGFA SCANNER!
with select iMac or iBook purchase

Originally
\$129.99

Limited time offer.
Offer subject to change.
Call now for complete details!

SnapScan
1212U USB
Scanner

NEW

Apple® iBook™ SE

Performance

PowerPC™ G3

366MHz

on Special Edition model

Memory

Now Comes with

64MB

as Standard Equipment

Spacious

Hard Drive

6GB

Big Enough for All Your Stuff

Brilliance

Active Matrix Screen

12.1"

Easy on Your Eyes

The latest member of the iBook team adds performance and style!

Just announced at Macworld Tokyo 2000, the newest iBook brings a more sophisticated look and more computing prowess to the iBook line. Sporting graphite and ice color accents, a faster G3 processor, more memory and a larger capacity hard drive, the iBook SE is sure to turn heads and handle more of everything with greater ease. Load more applications and files than ever to the 6GB hard drive and keep more applications open with the standard 64MB of RAM. And, as with the ever popular original iBooks, the iBook Special Edition is very communications-savvy, with a 56K modem and support for AirPort technology built-in.

Pick the NEW Apple iBook that's right for you!

iBook Model	Processor	Hard Drive	RAM	Optical Drive	Modem	Ethernet	USB	Graphics	Item #	ONLY	Lease*
Special Edition	G3/366MHz	6.0GB	64MB	24X CD-ROM	56K	10/100	1 Port	ATI RAGE w/AGP 2X	#116012	\$1794.98	\$64
Tangerine	G3/300MHz	6.0GB	64MB	24X CD-ROM	56K	10/100	1 Port	ATI RAGE w/AGP 2X	#116011	\$1594.98	\$57
Blueberry	G3/300MHz	6.0GB	64MB	24X CD-ROM	56K	10/100	1 Port	ATI RAGE w/AGP 2X	#116010	\$1594.98	\$57

LOSEOUTS - While Supplies Last!

Tangerine	G3/300MHz	3.2GB	32MB	24X CD-ROM	56K	10/100	1 Port	ATI RAGE w/AGP 2X	#110915	\$1494.98	\$53
Blueberry	G3/300MHz	3.2GB	32MB	24X CD-ROM	56K	10/100	1 Port	ATI RAGE w/AGP 2X	#110916	\$1494.98	\$53

FREE internet access with iBook purchase, subject to terms and conditions of Earthlink. Offer subject to change restrictions may apply.

*Business Lease: 36-month, fair-market value lease based on approved credit. Other leasing options available. Leases require a minimum order of \$1000. Call 1-800-611-9751 for details.



iBooks Starting at
\$1594.98

Now with 64MB of RAM and a 6.0GB hard drive standard, the new Tangerine and Blueberry iBooks have enough memory for serious work and play.

FREE!
30 Day EarthLink
Internet Access*
\$30 Value!

Go Unplugged!

ONLY
\$294.98
#110920

AirPort
Base Station

- Surf the Net or network wirelessly*
- Up to 150' range lets you and the iBook roam around the home or classroom

#110919 AirPort Card **\$99.98**

Be free of cables with an AirPort Card in your Power Mac and a Base Station.*

Connect up to 10 AirPort-enabled Macs instantly!*

Enjoy wireless networking at up to 11 Mbps*

*Requires the AirPort Card, Base Station and a computer that is AirPort Card ready.



ONLY
\$59.99
#503773

Perfect for the iBook or 14" screen notebooks!
Targus LapPac 5 carrying case



ONLY
\$599.99
#114413

3X optical/2X digital zoom!
Kodak DC40i Digital Zoom Camera



4X more power than AAs!
Digipower External Battery for Digital Cameras

ONLY
\$39.99
#07487

Unparalleled artistic control!

ONLY
\$99.99
#656993

WACOM
Graphire 4x5" USB Tablet with Pen and Cordless Mouse



ONLY
\$39.99
#109827

Take your camera everywhere!
LowePro Digital Camcorder Case*
Go to **Zones.com** for more selection.
*Camera sold separately.

Make movie magic!
Interview Video Capture

ONLY
\$79.99
#109654



Save money on batteries!

ONLY
\$29.99
#109953

DigiPower
Rechargeable NMI Batteries



The easy way to share photos and videos!



ONLY
\$129.99
#113802

Kritter USB Camera
your choice of flavors



ONLY
\$79.99
#111113

USB to IR remote control for DVD, CD, QuickTime or MP3 Player
Keyspan Media Remote



ONLY
\$49.99
#637018

Play music over the Web!

Corporate bids welcome!
Fax to 1-888-239-2591

Source Code
MW050

Order by Phone
1.800.436.0606

Order Online Today
Zones.com™

A NASDAQ® COMPANY Ticker Symbol: MZON

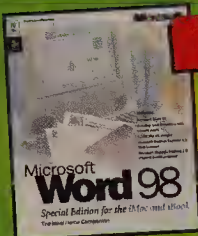
Best Sellers!



SAVE \$20!

NEW Version for Mac!
#653343 **\$39.95***

*After \$20 mfr. upgrade mail-in rebate. Low Zone price \$59.95



SAVE \$30!

Special Edition for the iMac & iBook
#648707 **\$79.97***

*After \$30 mfr. mail-in rebate. Low Zone price: \$109.97. Limited time offer.



New Version!

Virtual PC 3.0 with Win 98
#654332 **\$169.98**

Top Games!



Games

	Item #	ONLY
Madden NFL 2000	#111576	\$44.98
Rainbow Six	#111566	\$44.99
Baldur's Gate	#625850	\$44.99
Age of Empires	#111565	\$44.99
Tomb Raider III	#111573	\$44.98
The Big Kahuna	#108263	\$48.99
SimCity 3000	#111560	\$44.99
Myth: The Total Codex V1.0	#662611	\$19.99
Descent 3	#625849	\$39.98
Total Annihilation Gold	#111567	\$32.99
Fly!	#112108	\$44.99
Railroad Tycoon II	#111561	\$34.99
ChessMaster 6000	#653212	\$32.98
Quake III	#112118	\$49.99
Unreal Tournament	#111907	\$44.99
Bugdom 3D for the Family	#114493	\$29.98
Sid Meiers Alpha Centauri	#111574	\$44.98

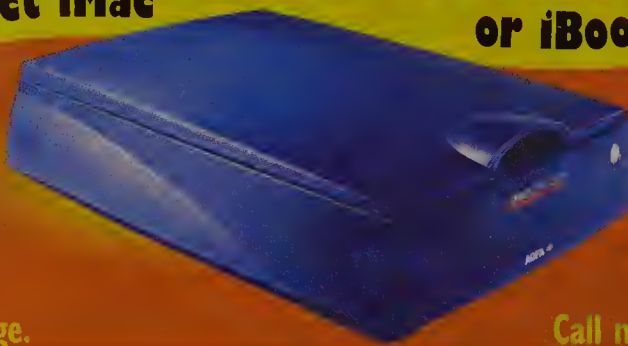
Mac Zone Exclusive!

FREE AGFA SCANNER!

with select iMac or iBook purchase

Originally **\$129.99**

Limited time offer. Offer subject to change.



SnapScan I212U USB Scanner

Call now for complete details!



Upgrade Your iMac or iBook!

For iMac 233/266/333MHz

ONLY

#674337	32MB Upgrade	\$39.99*
#674373	64MB Upgrade	\$64.99**
#109708	128MB Upgrade	\$149.99†

For iMac 350/400MHz

ONLY

#674339	64MB Upgrade	\$64.99**
#671988	128MB Upgrade	\$149.99†
#671989	256MB Upgrade	\$329.99

For iBook

ONLY

#674337	32MB Upgrade	\$39.99*
#674373	64MB Upgrade	\$64.99**

*After \$15 mfr. mail-in rebate. Low Zone price: \$54.99. **After \$20 mfr. mail-in rebate. Low Zone price: \$84.99. †After \$30 mail-in rebate. Low Zone price: \$179.99. Limited time offer.

Great iMac add-ons!

ONLY **\$179.99**
#650368

250MB of removable storage!
Iomega USB Zip 250 Drive

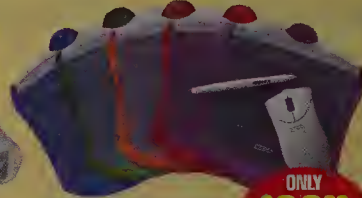
ONLY **\$39.99**
#111199

Give your eyes a rest!
3M iMac Anti-glare Filter



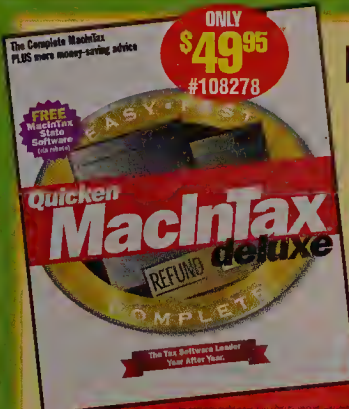
ONLY **\$149.98**
#109035

Use floppy disks and add 120MB storage!
Imation USB SuperDisk Drive 2X



ONLY **\$99.99**
#114555

New colors!
Graphire 4x5" USB Tablet with Pen and Cordless Mouse



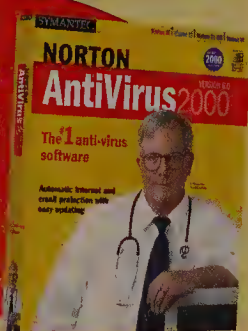
MacInTax Deluxe

Includes **FREE** MacInTax State \$27 Value!

*After mfr. mail-in rebate.

FREE

AntiVirus 6.0 Upgrade with MacInTax purchase!
Ask for item #652997
*After mfr. mail-in rebates. Low Zone price: \$59.98.



ONLY **\$294.98**
#110920

#110919 AirPort Card...\$99.98

AirPort Base Station

Share a single Internet connection in your home or business without cables or additional phone lines*!

*Requires the AirPort Card

AppleCare Protection Plan

- 1 Upgrade from 90-day phone support to 3 Years
- 2 TechTool Deluxe diagnostic software included to fix most problems -- \$69 Value
- 3 Exclusive access to AppleCare Web support site
- 4 A total of 3 years of Apple-certified service, both parts and labor
- 5 VALUE... 3 years of protection for only **\$148.99**
#112693

iMac Your Day!

Super Values on Everything You Want and Need!



Value RAM™
BY KINGSTON

HOTTEST PRICES!

on Memory for your
NEW iMac or iBook!

64 MB
\$64.99*
ONLY
#674372 - PC66
#674339 - PC100
*After \$20 rebate

128 MB
\$149.99*
ONLY
#674325 - PC66
#671988 - PC100
*After \$30 rebate

FREE!
Bug's Life
DVD movie with
every iMac DV!
\$30 VALUE!
(Title subject
to change)

iMacs™
Starting At
\$994.97

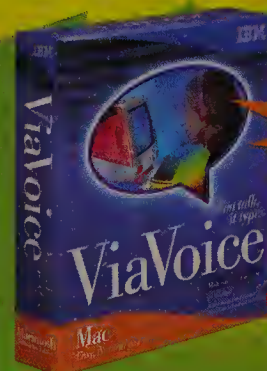
Digital Video for Everyone!

iMac
Special Edition
\$1494.98
Graphite
#112624

Built-in
Spectacular Stereophonic
SOUND

Harman Kardon Odyssey
Sound System

Included with each
of Apple's newest iMacs!



**NEW FOR
MAC!**

ONLY
\$74.99
#664668

- Intuitive and simple-to-use interface
- Speak naturally – no need for you to pause between words
- Make everyday computer tasks a snap
- Create e-mail, edit documents and more
- Integrates with Apple's text-to-speech function
- As easy to use as reading out loud



Your Choice
FREE™
with purchase of iMac OS 9!

Your choice of:

MacTicker #110198
Spring Cleaning #114859
Great Photo #114865
Mac OS 9 T-shirt #114860

*After \$20 Apple rebate for Mac OS 8.5 or 8.6 owners.
**Shipping and handling fees apply. While supplies last.

ONLY
\$1294.98
EACH

Pick the iMac that's right for you!

Model	Processor	HD	RAM	Optical	USB	FireWire	AirPort Ready	iMovie	Item #	ONLY	Lease*
Blueberry/350	350MHz	6.0GB	64MB	CD	2 ports	—	Yes	—	#112623	\$994.97	
Strawberry DV	400MHz	10.0GB	64MB	DVD	2 ports	2 ports	Yes	Yes	#112620	\$1294.98	\$46
Lime DV	400MHz	10.0GB	64MB	DVD	2 ports	2 ports	Yes	Yes	#112621	\$1294.98	\$46
Tangerine DV	400MHz	10.0GB	64MB	DVD	2 ports	2 ports	Yes	Yes	#112618	\$1294.98	\$46
Grape DV	400MHz	10.0GB	64MB	DVD	2 ports	2 ports	Yes	Yes	#112619	\$1294.98	\$46
Blueberry DV	400MHz	10.0GB	64MB	DVD	2 ports	2 ports	Yes	Yes	#112622	\$1294.98	\$46
Special Edition DV	400MHz	13.0GB	128MB	DVD	2 ports	2 ports	Yes	Yes	#112624	\$1494.98	\$53

*Business Lease: 36-month, fair-market value lease based on approved credit. Other leasing options available. Leases require a minimum order of \$1000.
Call 1-800-611-9751 for details.

Input / Printers

The trackball iMac users have
been waiting for!

Kensington
Orbit Trackball –
iMac Blueberry Blue

ONLY
\$49.99
#602571

Full-size, soft-touch
for comfort and control!



ONLY
\$49.99
#31933

MacALLY iKey USB Extended Keyboard

**SPECIAL
PURCHASE!**

AGFA SnapScan 1212U
USB Blueberry Scanner

WAS
\$129.99
NOW ONLY!
\$79.99
#111850



White
supplies last!

#1 selling iMac printer!

Epson Stylus 740i
Color Inkjet Printer

**\$50
PRICE
DROP!**

ONLY
\$129.99*
#107815



*After \$50 mfr. mail-in rebate. Low
Zone price: \$179.99

Connectivity

Connect your
existing printer
to your iMac!



ONLY
\$79.99
#621851

Trouble-free
USB connections!

ONLY
\$59.99
#111991



Belkin 4-port Stackable
USB Hub with Click-on Flavors

5 Easy Steps to Directing your Movies with iMovie!

FREE
With iMac
DV/SE models only!

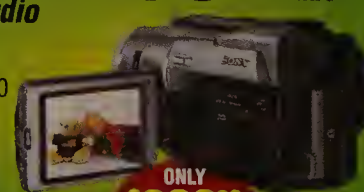
Apple® iMovie™

- COLLECT MEDIA**
iMovie operates your DV camera.
- EDIT VIDEO CLIPS**
Arrange scenes any way you like.
- ADD AUDIO AND TEXT**
Liven up your video with music or narration, plus text.
- EXPORT** Send your video to VHS tape or turn it into a QuickTime file then make a CD, e-mail the file or post it on a Web site.
- AMAZE FRIENDS & FAMILY!**

Complete your
digital studio
and save!

SONY

DCR-TRV3310
Digital 8
Camcorder



ONLY
\$999.99
#111858

Product shown is
representational only.

#111844 DCR-TRV510 Digital 8 Camcorder \$1299.99

Corporate bids welcome!
Fax to 1-888-239-2591

Source Code
MW050

Order by Phone
1.800.436.0606

Order Online Today
Zones.com™

A NASDAQ® COMPANY Ticker Symbol: MZON

Mac Zone Exclusive!

YOUR CHOICE

FREE

with your purchase of Mac OS 9! **

PLUS

Mac OS 9 includes these incredible values!

FREE Apple Remote Access Client AND Server
\$179 Value!

FREE Apple Language Kits (7 Total!)
\$599 Value!

FREE Apple Network Assistant 4.0 Client*
\$399 Value!

FREE Palm Desktop & Hot Sync for Palm Users
\$20 Value!

*Client ships FREE on OS 9 CD, Administrator CD ships FREE with all versions of AppleShare IP 6.3. FREE download update for 6.2 owners.

MORE reasons to get Mac OS 9!

- 1 Sherlock 2
- 2 Multiple Users
- 3 Voiceprint Password
- 4 Keychain
- 5 Automatic Updating
- 6 Encryption
- 7 Internet File Sharing
- 8 Internet AppleScript
- 9 Network Browsing



ONLY \$69.98*
#111431

\$50 Value!

\$10 Value!

\$40 Value!

\$30 Value!



Ask for item #110198



Ask for item #114859



Ask for item #114860



Ask for item #114865



Ask for item #115914

*After \$20 Apple rebate for 8.5/8.6 owners.
**Shipping and handling fees apply. While supplies last!

SAVE on Networking Essentials!

Stack up to 4 units!
3Com TP4 OfficeConnect Ethernet Hub

ONLY \$74.98
#654426

Get your entire office online!
Macsense X-Router Ethernet Router

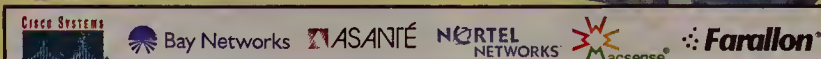
ONLY \$289.98
#636446

Lifetime warranty!
Asanté 8-Port 10/100 Hub

ONLY \$124.98
#85151

Easy web-based management!
Cisco 3512 XL STD Switch

ONLY \$1799.99
#624943



Scanner Super Values!

Vibrant 42-bit color!
UMAX Astra MX3

ONLY \$149.99*
#111169

Only 1.3 lbs!
NEC PetiScan

ONLY \$149.99
#113807

*After \$30 mfr. mail-in rebate.
Low Zone price: \$179.99.

Storage Solutions!

Easy to use!
Iomega Zip 100 Portable USB Drive

ONLY \$129.98
#95251

Fuji 100MB Zip Mac Disks

#37185 10-Pk Color \$10 rebate . \$79.99*
#54009 20-Pk Color 4-FREE . . \$179.99**
#86292 2-Pk Gray \$3 rebate . . \$24.99*
#88194 5-Pk Gray \$10 rebate . \$39.99*
#37186 10-Pk Gray \$10 rebate . \$79.99*
*After \$10 mfr. mail-in rebate. **Free disks by mail. Coupon in box. *After \$3 mfr. mail-in rebate.

Over twice the storage of the original!
Iomega Zip 250 Portable USB Drive

ONLY \$179.99
#650368

Ultra-thin!

AS LOW AS \$14.99*
EACH

Fuji 250MB Zip Mac Disks

#109489 Zip - Single \$17.99
#115111 Zip - 3-Pk \$49.99
*When purchased in 10-pack.

Create your own CDs!
USB External CD-RW Drive 4X2X8X

ONLY \$299.99
#107014

LACIE

AS LOW AS \$2.99
EACH

Fuji CD-Rewritable Discs

CD-RW - Single #59704 \$3.99
CD-RW - 3-Pack #108422 \$9.99
CD-RW - 10-Pack #59772 \$39.99
CD-RW - Single w/4 CD-Rs #105915 \$9.99

Upgrade Your Mac!

Increase your processing speed!
Newer MAXpowr G3 333MHz Processor Upgrade

Convert your Mac into a G3!
Sonnet Crescendo G3 240-266MHz NuBus Upgrade

ONLY \$249.99
#108674



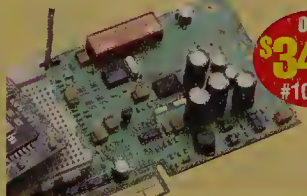
Product shown is representational. *After \$100 mail-in rebate.

The outrageously fast card for hard core gamers!
RAGE ORION 16MB PCI

ONLY \$159.98
#104818

Award-winning power!
XLR8 MACH G3 300MHz Upgrade

ONLY \$349.99
#109662



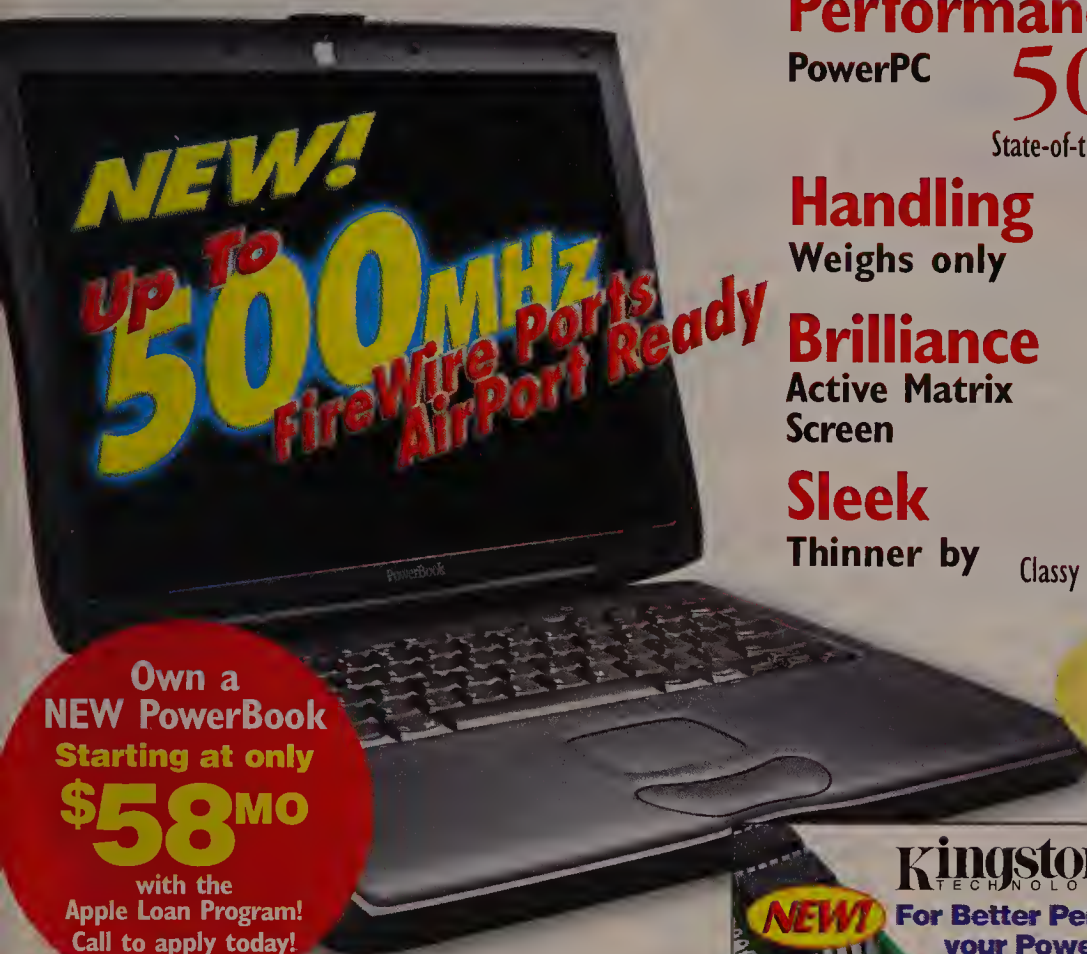
Credit cards are not charged until the order is shipped. Most products ship the same day (barring system failure, etc.). Shipping options include Ground, 2nd Day and Overnight delivery. Freight is based on average product weight. Handling extra. Insurance available. Special orders may require special shipping and handling charges. Call for international shipping rates. Prices and product availability subject to change without notice. Specials and promotions may be limited to stock on hand. Not responsible for typographical errors. All products sold by Multiple Zones International (MZI) are third party products and are subject to the warranties & representations of the applicable manufacturers, including but not limited to Y2K compliance. Accordingly, MZI makes no representation or warranty with respect to Y2K compliance of product sold. ©2000 Multiple Zones International Inc. All rights reserved. Unauthorized duplication is a violation of applicable laws. Apple, the Apple logo, Macintosh and PowerBook are registered trademarks of the Apple Computer, Inc.

Blowout Prices!

absolute lowest price!

 **Apple® PowerBook™**

Authorized
Catalog Reseller



Performance

PowerPC

500MHz

State-of-the-Art Technology

Handling

Weighs only

5.9 lbs.

ULTRA-ATA/66

Brilliance

Active Matrix
Screen

14.1"

High Quality Viewing

Sleek

Thinner by

20%

Classy Curves, Easy Storage

PowerBooks STARTING AT

\$2494⁹⁸

Kingston
TECHNOLOGY



**For Better Performance...Upgrade
your PowerBook's Memory!**

64MB Upgrade	#116020	\$109.99
128MB Upgrade	#116021	\$209.99
256MB Upgrade	#116022	\$439.99

Desktop power unleashed!

The new PowerBook line represents the ultimate in portable desktop computer replacements. With up to 500MHz and two FireWire ports, the new PowerBooks deliver enough graphics-punching power to design a masterful Photoshop spread and the connectivity to edit digital videos. Even with the added firepower, the PowerBook retains its svelte

5.9-pound case. Wherever you go, you can stay in touch with its internal 56K modem, or connect to a network with its built-in 10/100 Mbps Ethernet. And now it is even Airport-ready, with an AirPort Card slot and built-in antenna – so you can experience the wireless advantage.

Pick the **NEW** Apple PowerBook that's right for you!

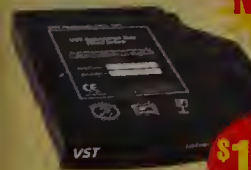


Processor	Hard Drive	RAM Std/Max	Backside Cache	Optical Drive	Modem	FireWire	Graphics	Item #	ONLY	Lease*
500MHz	6.0GB Ultra ATA-33	64MB/512MB	1.0MB L2	DVD-ROM	56K	2 Ports	ATI RAGE 128 w/2X AGP	#116008	\$2494.98	\$58
500MHz	12.0GB Ultra ATA-33	128MB/512MB	1.0MB L2	DVD-ROM	56K	2 Ports	ATI RAGE 128 w/2X AGP	#116009	\$3494.98	\$81

Business Lease: 36-month, fair-market value lease based on approved credit. Other leasing options available. Leases require a minimum order of \$1000. Call 1-800-611-9751 for details.

**Reads SuperDisks
and floppies!**

NEW!



VST SuperDisk
Drive for PowerBook G3

**ONLY
\$199⁹⁸**
#109512

**Final Cut
Pro
Certified**



**Includes QuickTime Pro
\$30 Value!**

Newer Technology
FireWire 2 Go PC Card

**ONLY
\$179⁹⁹**
#109764

**The ease and
convenience
of a floppy
drive!**



VST Zip 100 Drive for PowerBook G3

**ONLY
\$199⁹⁸**
#109510



Pinpoints your location!
DeLorme EarthMate GPS
for PowerBooks.

NEW!

**ONLY
\$159⁹⁸**
#112112



**Blazing fast and
self-powered!**
VST FireWire 4.0GB Ext. Drive

**ONLY
\$369⁹⁹**
#102785

EXCLUSIVE!



**Up To \$150
Instant
Rebate!**

on select computers with
purchase of hand-held PDA.

Limited time offer.
Offer subject to change.

**2 for 10! Use 2 batteries
for up to 10 hours!**



Apple Lithium-ion battery

**ONLY
\$139⁹⁸**
#622731

**Compartmentalized
expandable notebook
case!**

Originally
priced at \$69.99!
SAVE \$20!



Notebook Case

**ONLY
\$49⁹⁹**
#111447

Fits in your pocket!

USB



MacSense
4-Port
USB Mini Hub

**ONLY
\$24⁹⁹**
#636443

**Great durable tote
for your notebook!**

Originally
priced at \$49.99!
SAVE \$25!



Nylon Notebook Case

**ONLY
\$24⁹⁹**
#111446

Corporate bids welcome!
Fax to 1-888-239-2591

A **NASDAQ®** COMPANY Ticker Symbol: **MZON**

Circle 71 on card or go to www.macworld.com/getinfo

Source Code
MW050

**Order by Phone
1.800.436.0606**

Order Online Today

Zones.com™

**High compatibility,
low price**




**USB CD-RW
\$279.95**

APS Pro2

APS USB CD-RW 4x4x24

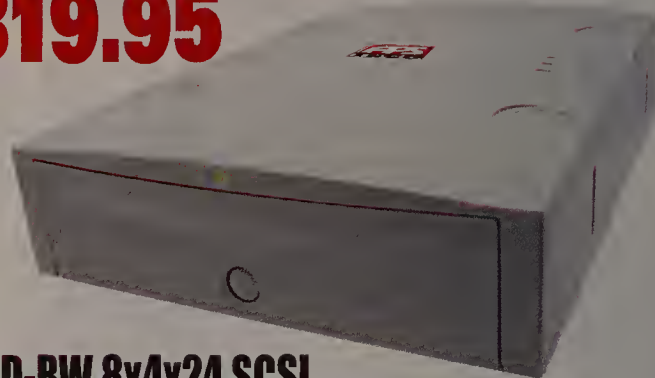
- CD-RW drive with convenient USB interface for hot-swapping, long chains
- Excellent for iMacs, newer G4 Macs and PCs

 This CD-ReWritable drive hooks up in a flash to your USB-compatible PC or Mac. And since USB is hot-swappable, you can share the USB CD-RW with other compatible systems in no time flat. There has never been a USB CD-RW drive like this. Call and order today.

APS CD-RW

\$319.95

APS Pro2

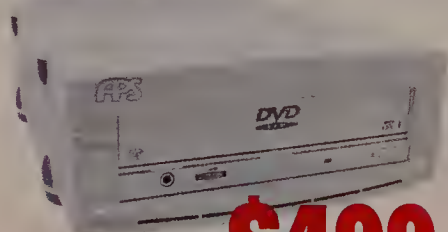


APS CD-RW 8x4x24 SCSI

- SCSI interface for best recording, reliability
- Burn a CD in just nine minutes, rewrite in 18



The 8x4x24 boasts blazing speed and exceptional value while offering unbeatable recording speed. Store, archive and back up your data, keeping your valuable information safe and secure. And, this drive comes in the new APS Pro2 enclosure, keeping your drive cool and protected from overheating and failed burns.



\$499.95

APS DVD-RAM

APS Pro

- Rewritable DVD discs with 5.2GB of storage for backup, archiving or digital video storage
- Reads virtually any CD at up to 20X speed

**Introducing Data Storage
for the New Millennium**



\$399.95



APS Pro2

APS FireWire 20GB Hard Drive

- Easiest connections ever – hot-swappable, no terminator, no device ID
- Up to 63 FireWire devices on one bus
- Ideal for personal video storage and editing, large-scale imaging/graphics

USB and FireWire Drives

APS USB CD-RW 4x4x24	\$279.95
APS 13GB USB Hard Drive	249.95
APS 20GB USB Hard Drive	339.95
APS 20GB FireWire Hard Drive	399.95
APS 37GB FireWire Hard Drive	629.95
APS 40GB FireWire RAID	799.95

APS Ultra 2 / Ultra 160 LVD SCSI Drives

Model	RPM	Internal	APS Pro
APS I 9GB Ultra 2 LVD	7200	\$269.95	\$339.95
APS 5T 9GB Ultra 160 LVD	7200	299.95	369.95
APS I 9.1GB Ultra 2 LVD	10000	429.95	499.95
APS 5T 9.1GB Ultra 160 LVD	10000	419.95	489.95
APS I 18GB Ultra 2 LVD	7200	459.95	529.95
APS 5T 18GB Ultra 160 LVD	7200	459.95	529.95
APS I 18GB Ultra 2 LVD	10000	689.95	759.95
APS 5T 18GB Ultra 160 LVD	10000	659.95	729.95
APS 5T 36GB Ultra 160 LVD	10000	1,069.95	1,139.95
APS 5T 73GB Ultra 160 LVD	10000	1,899.95	1,969.95

Drives listed above carry a five-year warranty.

* Internal configuration does not include a mounting bracket. Intended as a replacement internal SCSI drive.

APS 73GB Ultra 160 LVD SCSI

- 10,000 rpm drives offer you the fastest reliability, and performance
- 73GB for your most data-intensive creations



73GB LVD

\$1,899.95

Internal Configuration

~ CLOSEOUT SALE ~

APS CD-R 4x16 / 6GB Mastering System	\$499.95
APS 16x 5-Disc CD-ROM Changer	199.95
APS Pro Enclosure (Closed Front Narrow)	49.95
APS Pro Enclosure (Closed Front Ultra Wide)	49.95
APS Q 8GB Int. Ultra SCSI 5400 rpm Refurb.	199.95
APS JAZ II / 4x12x16 Mastering System	599.95
APS DLT Autoloader 4500 Rack Mount	2,599.95

While Supplies Last

**Ultimate storage at
an ultimate price**



\$299.95

APS Pro

APS ST 9GB Ultra SCSI

- Medalist Pro mechanism
- Perfect for design/publishing with an ultra-low price



APS Ultra SCSI Drives

Model	RPM	* Internal	APS Pro
APS 5T 4GB	7200	\$199.95	\$259.95
APS 5T 9GB	7200	269.95	299.95
APS I 18GB	7200	449.95	519.95

Drives listed above carry a three-year warranty.

APS IDE Ultra ATA/66 Drives

Model	RPM	Internal
APS 13GB IDE	7200	\$139.95
APS 20GB IDE	7200	179.95
APS 37GB IDE	5400	349.95

Drives listed above carry a one-year warranty

* Internal configuration does not include a mounting bracket. Intended as a replacement internal SCSI drive.



Drives on these pages are covered by the APS 30-Day Money-Back Guarantee.

www.apstech.com

For up-to-the-minute pricing

PERFORMANCE

**Reliable, capable,
affordable**

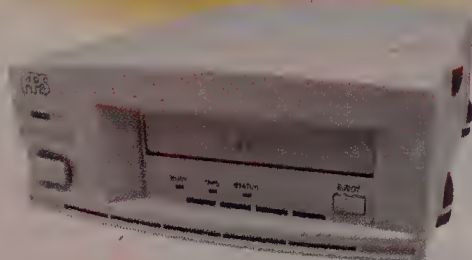
APS AIT PLUS

- 70GB of backup at up to 180MB/min
- Ideal for video, 3D and graphics workstations



Finally, a backup system that keeps up with digital video, high-power graphics and busy production environments. Fast Wide SCSI-2 interface makes the APS AIT Plus fast enough for even digital video. 70GB compressed capacity holds several hours of uncompressed digital video.

APS TECH exclusive!
Now each tape drive includes both
Mac and PC Retrospect software.



\$1,899.95

APS Pro Case w/ Retrospect Software for Mac and PC

APS Tape Backup

APS NS-8 (Travan NS-8) SCSI PRO2	\$399.95
APS NS-20 (Travan NS-20) SCSI PRO2	499.95
APS HyperDAT® II (DDS-2) SCSI PRO2	649.95
APS HyperDAT® III (DDS-3) SCSI PRO2	799.95
APS HyperDAT® IV (DDS-4) LVD PRO2	1,149.95
APS DLT4000 SCSI	1,849.95
APS DLT8000 LVD	4,399.95
APS AIT PLUS Ultra Wide	1,899.95
APS AIT II LVD	3,799.95
APS AIT Plus Autoloader Ultra Wide	3,799.95
APS DDS-3 Autoloader SCSI	2,599.95

Ships with Retrospect software for Mac and PC

LaCie electron19blue

- 19" Natural Flat Diamondtron® CRT
- Award-winning, professional color



\$669.95

Includes
Blue Hood

Displays

Sony Monitors

F-Series Monitor 19" Sony GDM-F400	\$929.95
F-Series Monitor 21" Sony GDM-F500R	1,759.95
G-Series Monitor 19" Sony CPD-G400	649.95
G-Series Monitor 21" Sony CPD-G500	1,199.95

LaCie Monitors

LaCie electron19blue	\$669.95
LaCie electron22blue	1,299.95

Sony LCD Displays

Sony Multiscan SDM-N50	\$1,499.95
Sony Multiscan CPD-L133	899.95
Sony Multiscan CPD-L150	1,249.95
Sony Multiscan CPD-L181	3,299.95

Capture your audience

Sony DSC -F505

- 2.1 Megapixel capture
- Super HAD CCD Imager
- Carl Zeiss Optics



\$999.95

Digital Cameras

Sony Digital Cybershot DSC-F505	\$999.95
Sony Digital Cybershot DSC-D770	1,899.95
Sony Digital Mavica MVC-FD83	599.95
Sony Digital Mavica MVC-FD88	799.95
Sony Digital Mavica MVC-FD91	947.95
Olympus C-2020 Zoom	879.95
Olympus C-2500L	1,499.95
Olympus D-620L	999.95
Nikon Coolpix 800	599.95
Nikon Coolpix 950	929.95
Epson PhotoPC 800	679.95
Epson PhotoPC 750z	559.95

Digital Video Camcorders

Canon ULURA	CALL
Canon ELURA	CALL
Canon XL-1	CALL
Canon GL-1	CALL

Canon ELURA DV Camcorder

- Palm-sized w/ 12x optical/48x digital zoom lens
- Better video quality than analog camcorders, VCRs



CALL FOR MOST CURRENT PRICE

Printers / Scanners

Printers

Epson Stylus Color 900 Printer	\$399.95
Epson Stylus Photo 1200 USB Color Printer	499.95
Epson Stylus Color 1520 Printer	499.95
Epson Stylus Color 3000 (Mac and PC)	1,249.95
Epson Stylus Pro S500 Color Printer	2,999.95

Scanners

Nikon Coolscan III (LS-30) (Mac)	\$979.95
Nikon Coolscan III (LS-30) (PC)	979.95
Nikon Coolscan 2000 (LS-2000)	1,599.95
UMAX Astra MX3 Flatbed Scanner	199.95
UMAX Astra 2400S Flatbed Scanner	299.95
UMAX PowerLook III w/ Trans. Adapter	1,199.95
UMAX Mirage II Flatbed Scanner	1,999.95

Power Management

APC Surge Station Pro 8	\$32.95
APC Surge Station Pro 8 w/ 2 Tel	37.95
APC Net 8 Surge Station	33.95
APC Net 8 Surge Station w/ Net P	47.95
APC Line Conditioner, R-1250 APC	129.95
APC Line Conditioner, R-600 APC	99.95
APC BackUPS Pro 280S APC	134.95
APC BackUPS Pro 420S APC	219.95
APC BackUPS Pro 650S APC	269.95
APC BackUPS Pro 1000S APC	365.95
APC BackUPS Pro 1400S APC	459.95

Mac OS is a registered trademark of Apple Computer, Inc. APS and APS Technologies are registered trademarks. Other brand or product names are registered trademarks or trademarks of their respective holders.

- 30-day money-back satisfaction on all APS brand drives and accessories. Your risk is the cost of shipping.
- Monitors and 3rd party products carry warranties from their respective manufacturers.
- SCSI cables sold separately.
- APS warranty is a pass-through of the mechanism manufacturer's warranty which will be serviced by APS for one year. APS warrants APS branded enclosures, brackets and power supplies for a period of one year from the date of purchase and will, at its discretion, replace or repair products found to be defective according to the specific terms of the warranty accompanying the product.
- Refused orders subject to 20% restocking fee.
- International customers must pay for all shipping charges.
- Prices and specifications are subject to change without notice.
- Not responsible for typographical errors.
- Your APS Drive unit may contain one or more components that were in prior use, but which have been inspected and repaired or rebuilt as necessary. These components, if any are covered by the same warranty provisions, exclusions and limitations to the same extent, and on the same terms as otherwise "new" components.
- © 2000, APS Tech. All Rights Reserved.

Hours: 7am -12 Midnight, M-F;
8am -10pm Sat-Sun; CST

Call 800-443-4996

Corporate Sales (800) 554-3941 International (816) 920-4109



Advanced tools for digital visionaries™



iMac G3 G4 iBook

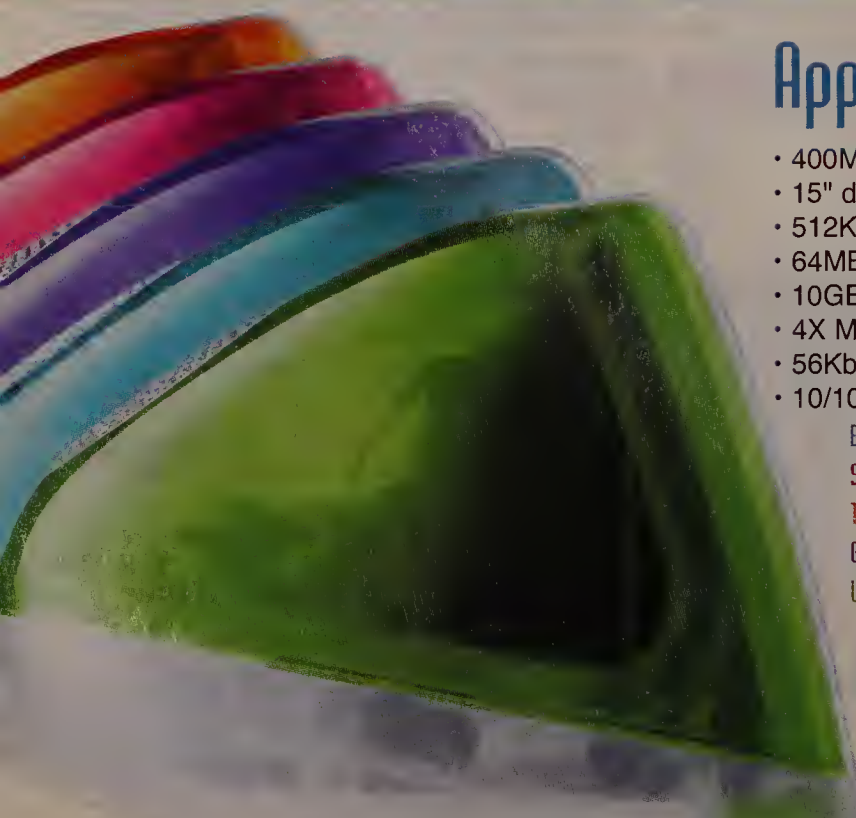
All custom configured for you



Get **your**
Macintosh built
the way
you want it.

CDW will custom configure your system to fit your needs and, in most cases, ship it the same day. Call your CDW account manager today and build the Mac of your dreams.

Experience digital video



Apple® iMac™ DV

- 400MHz PowerPC G3 processor
- 15" display, 13.8" viewable image size
- 512KB backside Level 2 cache
- 64MB SDRAM
- 10GB hard drive
- 4X Max DVD-ROM drive
- 56Kbps (V.90) modem
- 10/100BASE-T Ethernet

Blueberry	CDW 190108
Strawberry	CDW 190120
Tangerine	CDW 190110
Grape	CDW 190114
Lime	CDW 190123

\$1294



iMac DV Graphite

Special features include:

- 400MHz PowerPC G3 processor
- 128MB SDRAM
- 13GB hard drive

CDW 190128

\$1494



Authorized Reseller

Consider the possibilities

CDW carries the full line of Macintosh and Macintosh compatible products. Call your CDW account manager or visit us at www.cdw.com for more information.



Apple® Power Macintosh G4 Series

- 400MHz PowerPC G4 processor
- 1MB backside cache
- 100MHz system bus
- 64MB SDRAM
- 10GB hard drive
- DVD-ROM drive
- 56Kbps (V.90) modem

\$1594

CDW 208133

- 450MHz PowerPC G4 processor
- 1MB backside cache
- 100MHz system bus
- 128MB SDRAM
- 20GB hard drive
- DVD-ROM drive
- 100MB Zip drive
- 56Kbps (V.90) modem

\$2494

CDW 208134

- 500MHz PowerPC G4 processor
- 1MB backside cache
- 100MHz system bus
- 256MB SDRAM
- 27GB hard drive
- DVD-RAM drive
- 100MB Zip drive
- 56Kbps (V.90) modem

\$3494

CDW 208135

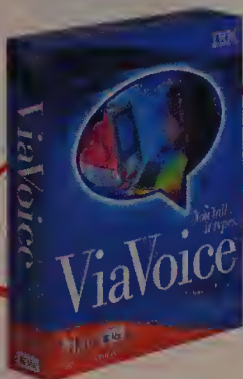


Apple® PowerBook

- 400MHz PowerPC G3 processor
- 1MB backside Level 2 cache
- 64MB RAM • 6GB hard drive
- 6X Max DVD-ROM drive
- 56Kbps (V.90) modem
- 10/100BASE-TX Ethernet
- 14.1" active-matrix SVGA display

\$2494

CDW 208122



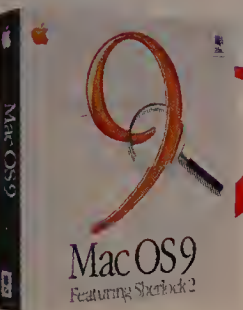
IBM Via Voice Millennium V1.0

For Macintosh

Let your Mac take care of the typing. With IBM Via Voice Millennium V1.0, you can speak directly to your Macintosh and the words will appear on the screen.

\$77.74

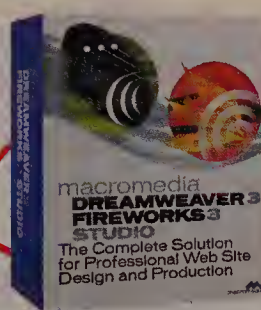
CDW 197816



Apple Mac OS 9

\$89.87

CDW 183126



Macromedia Dreamweaver 3 Fireworks 3 Studio

Dreamweaver 3 Fireworks 3 Studio is everything you need to design, build and manage professional Web sites.

\$369.47

CDW 192430



Mitsubishi Diamond Plus 91 monitor

- 19" truly flat monitor,
- 18" viewable image size
- 0.27mm AG dot pitch

\$469.78

CDW 201797



SIIG USB 4-port Hub 4000

- User friendly plug-and-play and hot-swapping features
- Auto select self- or bus-powered modes for maximum performance
- Per-port over-current detection and protection
- Provides four downstream ports for USB device connections
- Power-ready and over-current LED indicators for each downstream port

\$51.83

CDW 149885



Lucent WaveLAN IEEE Turbo

Wireless silver 11Mb PC Card

\$169.33

CDW 193484



Authorized Reseller

MITSUBISHI
DISPLAY PRODUCTS
Innovation On Display™

IBM



macromedia
add life to the web



**Computing Solutions
Built for Business™**

**www.cdw.com
800-509-4239**

BUY WITH CONFIDENCE CDW® IS A NASDAQ TRADED COMPANY TICKER SYMBOL CDWC D & B rated 5A1 Duns 10-762-7952

Credit card charges are not submitted until time of shipment. For your protection, we ship only to your credit card's verified billing address. Shipping and handling charges apply; please ask your CDW account manager for details. Before returning any product, you must obtain an RMA number. Non-defective returns are subject to a restocking fee. Software, chips and other electronic components are not returnable. Allow 10 business

days for shipping when paying by personal check. All pricing subject to change. For all prices and products, CDW® reserves the right to make adjustments due to changing market conditions, product discontinuation, manufacturer price changes or typographical errors in advertisements. All products sold by CDW are third party products and are subject to the warranties and representations of the applicable manufacturers. Please refer to www.cdw.com for additional terms and conditions.

©2000 CDW® Computer Centers, Inc. 200 N. Milwaukee Avenue, Vernon Hills, IL 60061 MW5509AB 5/00

ACCELERATOR CARD SPECIAL

Initio Miles UW Card

Only **\$135**

With any drive purchase

Supports latest Ultra SCSI and UltraWide SCSI protocols at up to 40 MB/sec, and provides unique performance for new, fast, wide, and Ultra SCSI devices

dvd-cd-cdr

www.pdisales.com/merchant/dvd.html
www.pdisales.com/merchant/cd.html

SONY CRX140 FireWire

CDRW Drive Software Included. 2x/4x/24x. External

\$399

Panasonic DVD Ram Drive

External

\$580

SANYO CDR-820

CDR Drive External 8X Recorder, 20X Reader. External

\$395

YAMAHA CRW8424

2Mb Buffer 8X Recorder, 4X ReWritable, 24X Reader. External

\$379

TOSHIBA 40XCD Drive

XM6401B External

\$135

NEC 24X CD Drive

CRD-1610A External

\$93

memory

www.pdisales.com/merchant/memory.html

Apple Certified • Highest Quality Memory
Lifetime Warranty • 24 Hour Replacement

Blue G3	168 pin	SDRAM	32MB • 64MB • 128MB
Beige G3	168 pin	SDRAM	32MB • 64MB • 128MB
iMac SODIMM			32MB • 64MB • 128MB
7200-9600, 5400-6400	168 pin	5vDIMM	16MB • 32MB • 64MB

accelerator cards

www.pdisales.com/merchant/SCSI.html

SCSI CARD SPECIAL

Acard PowerSTOR SCSI Card
HD50 SCSI-2 PCI Card **\$29**

Adaptec ADAPTEC

Adaptec AHA2930U	PCI to Ultra SCSI HD50 pin	\$99
PowerDomain 39160	PCI	\$429
Adaptec 29160	PCI Ultra 160 Single Channel	\$329
FireWire 8945	PCI	\$484
PowerDomain 2940U2W	Card Only	\$222
Adaptec AHA2906	PCI to SCSI-2 HD50 pin	\$49

ATTO ATTO

Express PCI	\$175
Dual Channel Express PCI	\$285
Express PCI Ultra2 LVD	\$329
Express PCI Ultra160 Dual	\$459
Express PCI Ultra2/LVD Dual Channel	\$489

INITIO

Initio Miles UW	\$135
Initio A100U2W	PCI to Ultra 2/LVD
UP TO 80 MB/Sec.	\$208

tape backup

www.pdisales.com/merchant/tape.html

SPEEDY TAPE DRIVES IN STOCK TODAY

DAT STORAGE

CAPACITY	MODEL	TRANSFER RATE	SALE
4-8 GB	Sony 7000		742
4-8 GB	HP 1599		791
4-8 GB	Seagate STT28000		330
4-8 GB	Seagate STD28000		577
8 GB	STD28000	60 MB/Min.	595
24 GB	HP 1554		1016
24 GB	Seagate DDS3		824
24 GB	Sony 9000 DDS3	120 MB/Min.	824
40 GB	Seagate DDS4		1184
40 GB	Sony 10000 DDS4	120 MB/Min.	1231
144 GB	HP 1559		2995
192 GB	Sony TSL-9000		824

DLT TAPE STORAGE

CAPACITY	MODEL	TRANSFER RATE	SALE
30 GB	DLT2006XT	150 MB/Min.	989
40 GB	DLT4000	180 MB/Min.	1852
70 GB	DLT7000	600 MB/Min.	4121
80 GB	DLT8000	600 MB/Min.	4915

AIT STORAGE

CAPACITY	MODEL	TRANSFER RATE	SALE
50 GB	Sony SDX300c	6 MB/sec.	2330
100 GB	Sony SDX500c	6 MB/sec.	4054

AIT autoloaders also available...call for details

RETROSPECT 4.0 MAC OR CHEYENNE WINDOWS (NT)
SOFTWARE INCLUDED WITH ALL TAPE DRIVES



speed tuned hard drives

Seagate CHEETAH

Capacity	Internal	External
9.1GB	\$359	\$439
18.2GB	\$579	\$659
36.4GB	\$949	\$1029

U2W 10000 rpm 5.2ms Seek (ST39103LW)
 LP U2W 10000rpm 1024k 5.9ms 5YR Low Profile (ST318203LW)
 U2W 10000 rpm 1024k buffer 5.9ms Seek (ST136403LW)

IBM 7200RPM ULTRASTAR

Capacity	Internal	External
9.1GB	\$229	\$319
18.2GB	\$399	\$479
36.4GB	\$849	\$929

U2W or Narrow 7200rpm 512k buffer 8.5ms Seek (39130W)
 U2W or Narrow 1024k 6.9ms 5YR Low Profile (DNES-31850LW)
 U2W or Narrow 7200rpm 4096k buffer 6.8ms Seek

Seagate BARRACUDA

Capacity	Internal	External
9.1GB	\$275	\$355
18.2GB	\$385	\$465
36.4GB	\$835	\$915

U2W 7200 rpm (ST39175LW)
 LP U2W 7200 rpm 1024k 6.9ms 5YR Low Profile (ST318275LW)
 U2W 7200 rpm (ST136475LW)
 U2W 7200 rpm 512k buffer 7.1ms Seek (ST150175LW)

IBM 10,000RPM ULTRASTAR

Capacity	Internal	External
9.1GB	\$389	\$469
18.2GB	\$579	\$659
36.4GB	\$939	\$1019

U2W 10000rpm (39100LW)
 U2W 10000rpm 1024k buffer 6.8ms Seek
 Ultra2 LVD 10000 rpm (QM309100TN-LW)
 Ultra2 LVD 10000 rpm (QM318200TN-LW)
 Ultra2 LVD 10000 rpm (QM336400TN-LW)

PowerSTOR SuperDeals

FireSTOR

NEW! FireWire Hard Drives

- *Hot Pluggable
- *No SCSI ID
- *No Termination
- *400Mb/sec Burst Transfer Rates

Capacity	FireWire 5400 rpm 512k 9.5ms Seek	Price
15.2GB	Quantum Fireball	\$325
25.0GB	FireWire 5400 rpm 2048k 9.5ms Seek	
37.5GB	IBM DeskStar	\$445
37.5GB	IBM DeskStar	\$615
13.6GB	FireWire 7200 rpm 2048k 8ms Seek	
13.6GB	IBM DeskStar GXP	\$375
20.0GB	IBM DeskStar GXP	\$425
27.0GB	IBM DeskStar GXP	\$505
34.0GB	IBM DeskStar GXP	\$605

PowerSTOR Value Hard Drives

Mac SCSI (NARROW)

Includes 50/50 DaisyChain or 25/50 Mac System Cable

Capacity	Price
15.2GB	Quantum Fireball \$275
25.0GB	IBM DeskStar \$375
37.5GB	IBM DeskStar \$525
13.6GB	7200 rpm 2048k 8ms Seek \$275
13.6GB	IBM DeskStar GXP \$275
20.0GB	IBM DeskStar GXP \$375
27.0GB	IBM DeskStar GXP \$425
34.0GB	IBM DeskStar GXP \$525

raid systems

www.pdisales.com/merchant/MacRaid.html

All PowerRAIDs are Initialized, Speed Tuned, Tested and Bench Marked To Insure a True "Plug and Save" Reliability.

- *Includes the Adaptec 2940U2W or Atto Ultra2 Wide Accelerator (Available with Dual Channel)
- *Exclusive Raid-Tuned Hard Drives
- *Raid Center Enclosures With Maximum Duty Power Supply, Teflon Shielded Cables, High Output Cooling
- *Ramus Raid Software.
- *All PowerRAID components are covered by a 5 year 48 hour replacement warranty.

Seagate CHEETAH PowerRAIDs

Capacity	Fixed	Removable
36GB SC36	\$2395	\$2495
72GB SC72	\$3285	\$3485
108GB SC108	\$4675	\$5075
144GB SC144	\$5995	\$6495

AV TUNED Ultra2

SUSTAINED TRANSFER RATES UP TO 72MB/SECOND

...SPEED TUNED!

Seagate BARRACUDA PowerRAIDs

Capacity	Fixed	Removable
36GB SB36	\$1695	\$1895
72GB SB72	\$2695	\$2995
100GB SB100	\$2985	\$3185
150GB SB150	\$4095	\$4395

raid level 5

www.pdisales.com/merchant/dv.html

Server RAID PowerRAID 5

Capacity	Server RAID	Price
60GB	Server RAID	\$3295
84GB	Server RAID	\$3495
100GB	Server RAID	\$3785
125GB	Server RAID	\$4475
140GB	Server RAID	\$4185
170GB	Server RAID	\$4845

Seagate BARRACUDA

- RAID Level 0, 1, & 5
- 40MB/sec transfer rates
- Host Independent Mac/NT/Sun
- Dual 250w redundant & load sharing hot swappable power supplies & cooling fans
- Up to 128MB cache
- Hot swappable drives
- LCD panel for quick and easy readout of RAID status
- Supports auto-rebuild
- Includes Adaptec 2940UW PCI card & ext. cables Mac/PC

Great for Digital Video or Server

Service & Performance & Price & Always

ProDirect

10830 Nesbitt Ave. South
Bloomington, MN 55437

Hours: Monday-Friday 8AM-7PM
International Orders: 612-884-0012

ProDirect Fax: 612-941-1109
Toll Free Tech Support 800-524-9952

Internet: www.pdisales.com
E-mail: info@pdisales.com

WD05.00

Quickly find and order it now on our website!

Quantum ATLAS IV

Capacity	Internal	External
9.1GB	\$245	\$325
18.2GB	\$385	\$465
36.4GB	\$775	\$855

Ultra2 LVD (QM309100KN-L)
 LP Ultra2 LVD (QM318200KN-L)
 Ultra2 LVD 7200rpm 1024k Buffer 6.9ms Seek (QM336400KN-L)

IDE hard drives

Capacity	Price
15.2GB (25L2648)	\$129
20.3GB (25L2560)	\$197
25.0GB (25L2652)	\$229
37.5GB (31L9070)	\$339
20.0GB (31L9056)	\$199
27.0GB (31L9058)	\$259
34.0GB (31L9060)	\$349

Seagate SEAGATE

Capacity	Price
8.4GB (38641A)	\$109
13.6GB (320430A)	\$129
20.4GB (320430A)	\$199
28.0GB (328040A)	\$269
13.0GB (FB313000CX-A)	\$129
17.3GB (FB317300CX-A)	\$149
20.5GB (FB320500CX-A)	\$189
26.0GB (FB326000CX-A)	\$269
20.0GB (FB205000KX)	\$219
27.0GB (FB270000KX)	\$279

Power ULTRA66

Mac IDE Accelerator

- *Dual Channel Internal or 1 in one ext.
- *Ultra IDE 66 MHz
- *Supports 4 Drives
- *Great for Internal G3/4 RAID
- *Great for Digital Video
- *Transfer Rates 30Mb Read 20 Mb Write.

\$145

PowerRAID

PowerRAID is on MEDIA 100's "Recommended Rids" List

TRUEVISION PINNACLE

All PowerRAID components are covered by our 5 Year, 48 Hour Replacement Warranty

OSA Multi Platform

Open System Architecture PowerRAIDs

Windows 95/98/NT
Apple MacOS
UNIX

- *NT Servers & Clusters
- *Workgroups
- *Internet/Intranet Servers
- *Non Linear Recording

Call or visit our website for our complete line of Open System Architecture PowerRAIDs

digital video

www.pdisales.com/merchant/dv.html

Adaptec ADAPTEC

Ultra Hot Connect 8945 \$599

Plug your FireWire Camera right into your computer for video and stills. NTSC and PAL formats. With FireWire and UltraWide SCSI both on One Card

Media 100 QX Mac or Win NT **\$179**
With Adobe Premiere

Media 100 QXC **\$379**
With Adobe Premiere

Media 100 LE **\$529**

PINNACLE Miromotion DC30+ **\$869**
With Mac Adobe Premiere

800-524-9952

VST Technologies

VST FW1260
6GB FireWire Hard Drive

For FireWire equipped computers • Super-fast, large capacity in a compact design • Portable & easy to use

\$399.99 (VST FW1260)

GB FireWire HD (VST FW1280) **\$499.99**

0GB FireWire HD (VST FW1210) **\$599.99**

4GB FireWire HD (VST FW1714) **\$799.99**

ard Bus Card To FireWire Kit • For ANY Card Bus qualified Laptop (VST FWBC) **\$149.99**

Scanners

Canon

Other iMac colors available from Canon!

Canon CanoScan FB630Ui
USB Flatbed Color Scanner

\$129.99 (CAN FB630Ui)

Micratek ScanMaker[®] 3600 42-Bit Flatbed
Color Scanner (MTX SCANMK3600) **NEW!** **\$99.99**

IMAX Astra 2400S Desktop Color Flatbed
Scanner (UMX AST2400S0U0) **\$299.99**

PSION Perfection[™] 1200U PHOTO Flatbed
Color Scanner (EPS 1200UTPHOTO) **NEW!** **\$349.99**

Ninolita Image Scan Dual (PC/Mac Film Scanner)
(MIN IMAGEDUAL) **\$499.99**

Networking

UMAX

UMAX[®] UGate-Plus
Cable/ADSL Modem Sharing Gateway

High-speed Internet gateway • For workgroups of up to 253 users • Simultaneous access via single IP of cable/ADSL modem • DHCP server/client support • Firewall • For Win/Mac

\$249.99 (UMX NETC73007)

UMAX[®] UGate-3000
Cable/ADSL Modem Share With 10/100 Hub

\$349.99 (UMX NETC73008)

Macintosh[®] Software

Microsoft[®] Word 98
Special Edition For the iMac[™] & iBook

Word 98, greeting card templates, 5,000 Clipart images, Internet Explorer 4.5 & Outlook Express 4.5 Internet e-mail program • iMac/iBook CD (MSM WORDIMAC-C)

\$79.99 After \$30 Mail-In Rebate!

SoundJam[™] MP
by Casady & Greene (CGM SOUNDJAM-C) **\$44.99**

ViaVoice Millennium
by IBM[®] (IBM VIAVOICEM-C) **\$74.99**

CorelDraw[™] (8.0) For Macintosh
by Corel[®] (CRM DRAW8-C) **\$79.99**

Virtual PC (3.0) With Windows 98
by Connectix[®] (CNM VPC398-C) **\$169.99**

Photoshop[®] (5.5) Version Upgrade
by Adobe[®] (ADM PHOTOS5U-C) **\$109.99**

After \$70 Mail-In Rebate for Owners of Photoshop[®] 5.0 ImageReady[™] - Good Thru 5/15/00!

Dreamweaver[™] 3
by Macromedia[®] (MNM DREAM3-C) **\$279.99**

J&R COMPUTER WORLD

Walk In

15 Park Row
New York, NY

Phone In

(800)
221-8180

Log In

www.jandr.com
AOL keyword: J&R

Apple[®] Instant Loan — See below ✓ for details.
Other products sold at J&R may be purchased on the Apple[®] Instant Loan program following the purchase of an Apple[®] Computer.

Apple[®] iBook[™] G3 Computers!

Apple[®] iBook[™] Notebook Computers **NEW!**

- 12.1" TFT SVGA display
- 300MHz PowerPC[™] G3 processor
- 64MB SDRAM • 6GB HD
- 24x max. CD-ROM
- 4MB VRAM • 56K max. modem
- 10/100BASE-T • USB • Blueberry or Tangerine

\$1599.99 EACH

or Only \$37.29/month ✓
(APP M7717LL/A) • BLUEBERRY OR
(APP M7718LL/A) • TANGERINE

✓ 67 monthly payments of \$37.29 (APP M7717LL/A) & (APP M7718LL/A) or \$41.95 (APP M7716LL/A), 15.57% Annual Percentage Rate subject to increase or decrease. Payments deferred for the first 120 days subject to interest of \$44.68 (APP M7717LL/A) & (APP M7718LL/A) or \$50.27 (APP M7716LL/A) and a loan origination fee of \$66.63 (APP M7717LL/A) & (APP M7718LL/A) or \$74.96 (APP M7716LL/A) charged on day 91. No prepayment penalty. Subject to approval of credit. Based on Estimated Retail Price of \$1599.99 (APP M7717LL/A) & (APP M7718LL/A) or \$1799.99 (APP M7716LL/A)

Apple[®] iBook[™] Special Edition Notebook Computer

- 12.1" TFT SVGA display • 366MHz PowerPC[™] G3 processor • 64MB SDRAM
- 6GB HD • 24x max. CD-ROM • 4MB VRAM
- 56K max. modem • 10/100BASE-T
- USB • Graphite enclosure

\$1799.99

or Only \$41.95/month ✓
(APP M7716LL/A)

NEW!

Apple[®] Macintosh[®] PowerBook[®] Computers!

Apple[®] Macintosh[®] PowerBook[®] G3/400 **NEW!**

- 64/6GB/DVD
- 14.1" TFT display • 400MHz PowerPC[™] G3 processor
- 64MB SDRAM • 6GB HD • DVO-ROM • 8MB VRAM
- 10/100BASE-T • 56K max. V.90 modem
- 2-FireWire[®]/2-USB ports

\$2499.99 (APP M7630LL/A)

or Only \$57.98/month ✓

✓ 67 monthly payments of \$57.98 (APP M7630LL/A) or \$81.62 (APP M7633LL/A), 15.57% Annual Percentage Rate subject to increase or decrease. Payments deferred for the first 120 days subject to interest of \$69.82 (APP M7630LL/A) or \$72.36 (APP M7633LL/A) and a loan origination fee of \$104.13 (APP M7630LL/A) or \$145.84 (APP M7633LL/A) charged on day 91. No prepayment penalty. Subject to approval of credit. Based on Estimated Retail Price of \$2499.99 (APP M7630LL/A) or \$3499.99 (APP M7633LL/A).

Apple[®] Macintosh[®] PowerBook[®] G3/500 **NEW!**

- 128/12GB/DVD
- 14.1" TFT display • 500MHz PowerPC[™] G3 processor
- 128MB SDRAM • 12GB HD • DVO-ROM
- 8MB VRAM • 10/100BASE-T • 56K max. V.90 modem
- 2-FireWire[®]/2-USB ports

\$3499.99 (APP M7633LL/A)

or Only \$81.62/month ✓

Apple[®] Power Macintosh[®] G4 MiniTower Computers!

Apple[®] Power Mac[™] G4/400

- 64/10GB/DVD MiniTower
- 400MHz PowerPC[™] G4 processor w/ Velocity Engine[™]
- 400MHz PowerPC[™] G4 processor w/ Velocity Engine[™]
- 64MB SDRAM • 10GB HD
- DVO-ROM • 16MB VRAM
- 56K max. V.90 modem
- 3-FireWire[®]/2-USB
- 10/100BASE-T
- Monitor sold separately

\$1599.99 (APP M7641LL/A)

or Only \$37.29/month ✓

Apple[®] Power Mac[™] G4/450

- 128/20GB/DVD/Zip[™] MiniTower
- 450MHz PowerPC[™] G4 processor w/ Velocity Engine[™] • 128MB SDRAM
- 20GB HD • DVO-ROM • Zip[™]
- 56K max. V.90 modem
- 16MB VRAM • 3-FireWire[®]/2-USB
- 10/100BASE-T
- Monitor sold separately

\$2499.99 (APP M7628LL/A)

or Only \$57.98/month ✓

Apple[®] Power Mac[™] G4/500

- 256/27GB/DVD-RAM/Zip[™] MiniTower
- 500MHz PowerPC[™] G4 processor w/ Velocity Engine[™] • 256MB SDRAM
- 27GB HD • DVO-ROM • Zip[™]
- 16MB VRAM • 3-FireWire[®]/2-USB
- 10/100BASE-T
- Monitor sold separately

\$3499.99 (APP M7629LL/A)

or Only \$81.62/month ✓

✓ 67 monthly payments of \$37.29 (APP M7641LL/A) or \$57.98 (APP M7628LL/A) or \$81.62 (APP M7629LL/A), 15.57% Annual Percentage Rate subject to increase or decrease. Payments deferred for the first 120 days subject to interest of \$44.68 (APP M7641LL/A) or \$69.82 (APP M7628LL/A) or \$97.86 (APP M7629LL/A) and a loan origination fee of \$66.63 (APP M7641LL/A) or \$104.13 (APP M7628LL/A) or \$145.84 (APP M7629LL/A) charged on day 91. No prepayment penalty. Subject to approval of credit. Based on Estimated Retail Price of \$1599.99 (APP M7641LL/A) or \$2499.99 (APP M7628LL/A) or \$3499.99 (APP M7629LL/A).

©2000 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Macintosh, Power Macintosh, PowerBook and FireWire are registered trademarks of Apple Computer, Inc. All other trademarks are the property of their respective owners. All Apple products are designed to be accessible to individuals with disabilities. For more information in the U.S. only, call 1-800-541-3333 or 1-800-833-6223. Prices and promotions may not be combined with other prices and promotions. Offers good while supplies last. PowerPC and the PowerPC logo are trademarks of International Business Machines Corporation used under license therefrom. Zip is a registered trademark of Imation[®] Inc. Trinitron is a trademark of Sony Corporation, registered in the U.S. and other countries.

J&R CORPORATE SALES BUSINESS LEASING:
No Money Down, No Payments for 30 Days!

Call J&R Corporate Sales for details at
1-800-221-3191 or 1-212-238-9080

J&R CORPORATE SALES

iMovie

Making movies is as easy as using your iMac.

iMovie

When it comes to editing, iMovie lets you master time & space. It enables you to select your best scenes & present them in the most effective way, without the false starts & miscues that mar most home movies. You decide what's important, & what's not, & you arrange the scenes in the order that works best. The result: home movies that move at the pace of professional productions. With iMovie, you can edit, polish & reorganize your movie — without touching or altering your original DV footage.

Canon Elura[™]

Canon

iMovie Compatible!

Canon Elura[™] Digital Camcorder

- Progressive scan CCD • 12x-optical/48x-digital zoom
- 3 shooting modes • 2.5" flexible color LCD screen
- Color viewfinder • 16:9 wide screen • Remote

CALL FOR PRICE! (CAN ELURA)

Sony DCR-TRV10

SONY

iMovie Compatible!

Sony DCR-TRV10 Digital Camcorder

- 3.5" SwivelScreen[™] precision color LCD monitor
- Memory mode for still image capture onto Memory Stick[™] media • Carl Zeiss[®] 10x-optical/120x-digital zoom • Color viewfinder
- Super SteadyShot[™] • 12-bit/16-bit PCM digital stereo audio • NightShot[™] system • Photo mode
- i.LINK[™] DV interface • InfoLithium[®] battery

CALL FOR PRICE! (SON DCRTRV10)

CD-ReWriteable Drives

QPS Que! FIRE DRIVE

4x4x24x External CD-ReWritable Drive With FireWire[®] Interface

- Max: 4x-write/rewrite, 24x read • 2MB buffer memory • Up to 650MB data/74 min. audio

\$299.99 (QPS RW4424FEMG3)

QPS Que! FIRE DRIVE Max. 8x4x32x External CD-ReWritable Drive With FireWire[®] Interface

(QPS RW8432FEMG3) **\$399.99**

Sony Spressa[™] CRX100E/X2 Max. 4x4x6x External USB Plus CD-RW Drive Upgrade Kit

(SON CRX100E/X2) **\$299.99**

Smart & Friendly[™] Easy Racer RW External CD Recorder With CD-RW ReWritability For iMac[™]

(ISM SAF6767) **\$299.99**

Order from
www.jandr.com
AOL keyword: J&R

To Order Toll Free and Receive a Free Catalogue
800-221-8180

PARK ROW • NEW YORK • NY • 10038 **FAX: 1-800-232-4432**

Order Code: MW005
(Prices Good Until 05/15/00)

Not responsible for typographical or pictorial errors. Merchandise is brand-new, factory-fresh & 100% guaranteed! • Except where noted! Some quantities may be limited.

Circle 56 on card or go to www.macworld.com/getinfo

Here's this month's hot features. Check out more at www.megahaus.com/mac

USB Hard Drive

USB

17.2GB

Also avail in 6,8 & 13 GB
For PC or Mac!

\$209

(USB17GB)

USB CDRW Drive

USB

CD Rewritable

4x4x34 USB

For Mac or PC!

Ext. \$279

(USB4X4X32)

Hard Drive

Quantum

18.2 GB \$385

SCSI Ultra 160/m

Int. (KN318200LW)

Ext. \$515

(KN318200LWX)

Hard Drive

Seagate

9. GB \$265

Ultra-2 SCSI

Int. (ST39175LW)

Ext. \$395

(ST39175LWX)

CDRW Drive Kit

YAMAHA

8x4x24 \$255

SCSI-2 Kit

W/mastering soft. & 1 disk.

\$289 Ext.

Int. (YCRWB424WOW)

(YCRWB424MX)

DVD Ram Drive

Panasonic

1x20x2 \$459

Complete SCSI-2 Kit

Reads DVD-ROM, DVD-R, CD-R & CD-RW disks.

2MB buffer. W/soft. & 2.6GB DVD disk. (LFD103U)

Tape Drive

SONY

20-40GB \$949

Ultra Wide SCSI DDS-4

Int. (SDT11000AI)

\$1119 Ext.

(SDT11000XM)

2 Gig Jaz Drive

iomega

2GB Jaz Drive \$315

Ultra-2 SCSI

Ext. (JAZ2X)

2GB disks

\$85 each

(JAZC2GIGPC)

HARD DRIVES

Quantum

ULTRA 160/m SCSI Will work on older SCSI, Ultra Wide, Ultra-2 controllers.

9.1GB	7200	2MB	KN309100LW	\$235
9.1GB	7200	4MB	XC309100LW	\$255
9.1GB	10,000	2MB	TN309100LW	\$345
18.2GB	7200	2MB	KN318200LW	\$385
18.4GB	7200	4MB	XC318400LW	\$395
18.2GB	10,000	2MB	TN318200LW	\$559
36.4GB	7200	2MB	KN336400LW	\$810
36.7GB	7200	4MB	XC336700LW	\$829
36.4GB	10,000	2MB	TN336400LW	\$989

IDE ULTRA ATA/66

5.1GB	512K	5400	QML05100LA	\$98
10.2GB	512K	5400	QML10200LA	\$120
10.2GB	2MB	7200	QMP10200LM	\$150
15.0GB	512K	5400	QML15000LA	\$135
15.0GB	2MB	7200	QMP15000LM	\$175
20.4GB	512K	5400	QML20400LA	\$155
20.5GB	2MB	7200	QMP20500LM	\$195
30.0GB	512K	5400	QML30000LA	\$240
30.0GB	2MB	7200	QMP30000LM	\$289

IBM

9.1GB	7200	2MB	IBM309170N	\$230
18.2GB	7200	2MB	IBM318350N	\$365

ULTRA WIDE SCSI

9.1GB	7200	2MB	IBM309170W	\$230
18.2GB	7200	2MB	IBM318350W	\$365

ULTRA-2 SCSI

9.1GB	7200	2MB	IBM309170U2	\$230
9.1GB	10,000	2MB	IDMV59U2	\$350
18.2GB	7200	2MB	IBM318350U2	\$365
18.2GB	10,000	2MB	IDMV518U2	\$575
36.4GB	10,000	2MB	IDMV536U2	\$945

ULTRA 160 SCSI

9.1GB	7200	4MB	07N3120	\$315
9.1GB	10,000	4MB	07N3220	\$395
18.2GB	7200	4MB	07N3110	\$469
18.3GB	10,000	4MB	07N3210	\$615
36.4GB	7200	4MB	07N3100	\$885
36.4GB	10,000	4MB	07N3200	\$965

IDE & IDE Ultra ATA/66

20.0GB	5400	2MB	IBM20GXP	\$179
20.3GB	5400	2MB	IBM20GP	\$169
25.0GB	5400	2MB	IBM25GP	\$210
27.3GB	7200	2MB	IBM27GXP	\$254
34.2GB	7200	2MB	IBM34GXP	\$340
37.5GB	5400	2MB	IBM37GP	\$330

WESTERN DIGITAL

4.3GB	5400	512K	WDAC43AA	\$99
6.4GB	5400	512K	WDAC64AA	\$109
8.4GB	5400	512K	WDAC84AA	\$115
10.2GB	5400	512K	WDAC102AA	\$119
13.0GB	5400	512K	WDAC136AA	\$133
15.3GB	7200	2MB	WDAC153BA	\$150
18.0GB	5400	2MB	WDAC180AA	\$149
20.5GB	5400	2MB	WDAC205AA	\$175
20.5GB	7200	2MB	WDAC205BA	\$210
27.3GB	7200	2MB	WDAC273BA	\$275
30.0GB	5400	2MB	WDAC307AA	\$225

HARD DRIVES

Seagate

ULTRA SCSI

9.1GB	7200	512K	ST39140N	\$250
9.2GB	7200	2MB	ST39216N	\$290
18.4GB	7200	2MB	ST318416N	\$450

ULTRA-2 SCSI

9.1GB	7200	1MB	ST39175LW	\$265
9.1GB	10,000	1MB	ST39103LW	\$355
9.1GB	10,000	4MB	ST39103LW4	\$369
18.2GB	7200	1MB	ST318275LW	\$375
18.2GB	10,000	1MB	ST318203LW	\$570
18.2GB	10,000	4MB	ST318203LW4	\$585
36.4GB	7200	1MB	ST136475LW	\$825
36.4GB	10,000	1MB	ST136403LW	\$910
50.1GB	7200	1MB	ST150176LW	\$915

Ultra 160 SCSI

9.1GB	10,000	4MB	ST39133LWV	\$369
18.2GB	10,000	4MB	ST318233LWV	\$585

IDE Ultra ATA/66

4.3GB	5400	256K	ST34314A	\$90
8.4GB	5400	512K	ST38410A	\$111
13.0GB	5400	512K	ST313021A	\$129
17.2GB	5400	512K	ST317221A	\$138
28.0GB	7200	512K	ST328040A	\$225

Maxtor

IDE Ultra ATA/66

10.2GB	5400	512K	M91021U2	\$119
13.6GB	5400	512K	M91301U3	\$129
13.6GB	5400	2MB	M91369U3	\$135
17.3GB	5400	2MB	M91737U4	\$145
17.4GB	5400	512K	M91741U4	\$140
27.3GB	5400	2MB	M92732U8	\$240
36.5GB	5400	2MB	M93652U8	\$279

2.5" IDE LAPTOP

4.3GB	8.45mm	Toshiba	MK4313MAT	\$159
6.0GB	9.5mm	Toshiba	MK6014MAT	\$185
12.1GB	9.5mm	Toshiba	MK1214GAP	\$285
18.1GB	12.5mm	Toshiba	MK1814GAV	\$425
6.0GB	9.5mm	IBM	DA206000	\$185
12.0GB	9.5mm	IBM	DA212000	\$340
15.0GB	12.5mm	IBM	DA215000	\$475
18.1GB	12.5mm	IBM	DA218000	\$495
25.3GB	17mm	IBM	DA225000	\$565

We carry more enclosures for drives than anybody. From single 2.5" drive cases to 20 full height RAID ready towers. We also stock a complete line of controllers for Macs. Call us with your needs.

- Diskmanager Software for larger drives on larger systems (DISKMANAGER) \$15
- PCMCIA case for 2.5" drives (PCMCIA2.5) \$129
- 2.5" drive caddies for IBM, Toshiba, NEC, Compaq & More! \$55e.

We are committed to being the #1 Source for hard drives for Macintosh. If you need a drive or drive accessory not listed here, we probably have it. Call for pricing and availability.

Nobody beats our deals.
Nobody has more drives.

RAID

Enclosure holds 3 Hot Swappable SCA drives
Int. (SCA3DR-LVD)\$259 Ext. (SCA3CE-LVD) \$329
We can custom configure a RAID system to your exact needs. Call one of our RAID experts at 800-786-5653.

CD ROM

• SCSI Internals • Call About Our Externals

Teac	CD532S	32X	85ms	\$80
Plextor	PX32TS (tray)	32X	85ms	\$88
Plextor	PX32CS (caddy)	32X	85ms	\$139
NEC	CDR3010	40X	85ms	\$72
Toshiba	XM6401B	40X	85ms	\$79
Plextor	PX40TS	40X	85ms	\$98
Kenwood	UCR415	52X	90ms	\$159

• WIDE SCSI •

Plextor	PX40TSUW	40X	85ms	\$99
Teac	CD540E	40X	85ms	\$46
NEC	CDR3000	40X	75ms	\$48
Mitsumi	CRMCFX48X	48X	65ms	\$46
Creative	SBCDS2	52X	100ms	\$55
Kenwood	UCR412	52X	90ms	\$86
Kenwood	UCR421	72X	90ms	\$124

• CD CHANGER •

Pioneer 24 X6 Disc Ext. SCSI (DRM6324X) \$395

TAPE BACKUP

Capacity	Native-Compressed	Max. Speed	Back Up Be Safe!
2-4GB	66MB/min	Seagate STD24000N	\$429
4-8GB	66MB/min	Seagate DDS-2 STD28000N	\$535
4-8GB	90MB/min	Sony SDT7000AI	\$519
4-8GB	60MB/min	HP C1599AI	\$569
12-24GB	144MB/min	Sony DDS-3 SDT9000AI	\$679
12-24GB	120MB/min	HP DDS-3 C1554AI	\$729
12-96GB	120MB/min	Sony TSL9000 tape loader	\$1899
20-40GB	288MB/min	Sony DDS-4 SDT11000AI	\$999
48-96GB	66MB/min	Seagate DDS-2 STL496000N	\$2159
72-144GB	120MB/min	HP 6 tape load DDS-3 C5648A	\$1999

• EXABYTE 8mm DAT •

7-14GB	120MB/min	ELIANT820	\$1299
20-40GB	360MB/min	EXB8900	\$2119
140-280GB	180MB/min	EZ175WK	\$4399

• QUANTUM DLT •

20-40GB	180MB/min	DLT4000	\$1379
35-70GB	600MB/min	DLT7000	\$3829
40-80GB	600MB/min	DLT8000	\$3999

Visit www.megahaus.com for unbeatable deals on tape media!

REMOVABLE MEDIA

iomega	100MB Zip Ext SCSI/USB	\$109/\$119
	250MB Zip Ext SCSI/USB	\$145/\$165
	2GB Jaz Internal SCSI	\$309
	2GB Jaz External SCSI	\$315
	1GB Jaz disk 2-4/5-9/10+	\$807/\$775
	2GB Jaz disk 2-4/5-9/10+	\$858/\$777
Sony Magneto Optical	5.2GB SCSI-2 Int. 4MB buffer (SMOF551)	\$1399
	5.2GB SCSI-2 Ext. 4MB buffer (SMOF551X)	\$1539
	5.2GB optical media (SMAXS.2) 1-4/5-9/10+	\$838/\$777

MEDIA

Nobody Beats MegaHaus for CD media. Larger quantities available.

• CD RECORDABLE MEDIA • Max Speed			
5 Pack [CDR74B-5]	8x	\$6	
20 Pack [CDR74B-20]	8x	\$23	
50 Pack [CDR74B-50]	8x	\$55	
100 Pack [CDR74B-100]	8x	\$99	

• New 80 MINUTE MEDIA! •

5 Pack [CDR80-5]	8x	\$9
20 Pack [CDR80-20]	8x	\$25
50 Pack [CDR80-50]	8x	\$59
100 Pack [CDR80-100]	8x	\$109

• CD REWRITABLE MEDIA •

Budget 5 Pack [CDR74WB-5]	4x	\$9
Budget 20 Pack [CDR74WB-20]	4x	\$25
Budget 50 Pack [CDR74WB-50]	4x	\$59
Budget 100 Pack [CDR74WB-100]	4x	\$109
5 Pack [CDR74W-5]	4x	\$25
20 Pack [CDR74W-20]	4x	\$79
50 Pack [CDR74W-50]	4x	\$195

THE #1 MACINTOSH RESOURCE

Get super savings on a subscription, plus a FREE CD-ROM.



Incisive Product Reviews
Lab-based Performance Tests
Tips, Tricks & Tutorials
Technical Solutions
Coverage of Emerging Technology
And much more!

Macworld is the best way to stay on top of today's fast-changing Macintosh technology. And here's your chance to save big on a subscription, plus get the exclusive Macworld Clip Art CD-ROM containing an extensive collection of images, digital stock photos, and more — FREE with your paid order.

To get it all, go to
<http://subscribe.macworld.com>

Developer Showcase

Welcome to the Developer Showcase



Macworld magazine, in conjunction with the **Apple Developer Connection**, built this **NEW** specialized advertising section to keep you, our

valued reader, apprised of some of the **hottest** products available for your Mac. Due to the unparalleled

popularity of **Apple** computer systems like the **iMac**, **PowerBook G3** and

PowerMac G4, more than ever before developers are releasing new Mac-compatible

software and **hardware** products. **Be sure to check this section each**

month where you'll find a wide variety of innovative solutions that will make your **Macintosh**

experience even more pleasurable! **Contact Niki Stranz or Carol Johnstone at: (800) 597-1594**



DOCUMENTEXPRESS Pro

Easily provides E-Marketing, E-Sales,
E-Commerce & E-Service into your website

Document Express Pro is software that you use to effectively communicate with those who buy products, submit requests, require information or customer service from your Website.

- Easily exports to Filemaker® Pro.
- Complete forms ready-to-use with Adobe® GoLive™, Macromedia® Dreamweaver™ or your favorite HTML editor.
- Easy-to-use interface makes learning a snap.

Document Express features:

- E-business Website
- Customer Manager
- Webforms
- Marketing Center
- Personalized Auto-reply
- Plug-in Technology

"Without question, you have the easiest to use, most cost effective solution on the market for web marketing and e-mail management."

— Steven Kingsley, President
Newmedia Publishing



Ideal for: e-business startups • website designers • webmasters
permission marketing • e-commerce specialists • web-based businesses

www.documentexpress.com 1-888-547-1787

Inventory Management

Point-Of-Sale



Nationally, more than 3,500 Retailers partner with
POS-IM software systems for increased profits!

Retailers' Power Partner...

More Profits

Increased profits come to Retailers who apply the powerful features of POS-IM, the proven POS software system for Point-of-Sale, and Inventory Management. See why

retailers choose POS-IM, including Apples' own company store.

FREE introductory CD, call
(800) 409-7678

POS-IM™
POINT OF SALE
INVENTORY MANAGEMENT

Quickly Build and Deploy Powerful Data-Driven Web Applications



**New
Product**



**New 3.6
Version**

Lasso Products Lead The Way.

Building custom database-driven Web sites requires a whole new way of doing things. Blue World and the Lasso Web Data Engine™ consistently lead the way providing a feature set Web developers describe as "incredible." Build online stores, discussion forums, resource management systems and other demanding database-driven Web applications with unrivaled performance, ease, security, extensibility, control and flexibility. Develop using multiple languages—including LDML, CDML, Server-Side JavaScript, Java and XML—and deploy across multiple platforms. Your Lasso code works identically regardless to which database you're connected. Lasso solutions for FileMaker Pro databases easily scale to big iron ODBC-compliant databases like Oracle, Sybase and more with little or no change.

Find out why hundreds of thousands of websites rely on award-winning Lasso technology for their business critical Web data. Download a 30-day evaluation copy at www.blueworld.com/download/ or order securely online today at the Blue World Store at store.blueworld.com.

Lasso Product Line – The leading Web database tools for Macintosh and beyond.

bring business to the internet.™

blueworld

Developer Showcase

Whether you're an old hound, or just a pup, Yellow Dog Linux **Gone Home™** offers a wonderful combination of speed, stability, and the very playful best of Linux for your Power Macintosh.

An operating system for you, your neighbor ... and your dog, by Terra Soft Solutions, Inc.

www.yellowdoglinux.com



000 e s t i n g A l l r e s e r v e s



Meet
the future
of
programming

- Open source runtime
- Full access to the Mac toolbox
- PPC/68K compiles
- Access to shared libraries

www.stazsoftware.com • 800.348.2623

PrintChef[®] 3

Add
PrintChef
to your
print dialog
today...

...and get all
these great
printing
possibilities!

booklets
watermarks
toner/ink control
create bar codes
design new paper sizes
miniature pages & labels
collect files into one print
create letterheads
front-back printing

...for International callers
Worldwide: (931) 937-6800
Fax Orders: (931) 937-6801

30-day money-back guarantee



MindGate[®] Technologies, Inc.
164 Oliver Smith Road
Flinnville, TN 37335-5335

MindGate, PrintChef, and their
logos are registered trademarks
and "print different" is a trademark
of MindGate Technologies, Inc.

PrintChef boosts the printing power of
any application printing with **any printer!**

Call **(800) 648-6840**... or
experience PrintChef Lite (shareware),
and get other information at our web
site. www.mindgate.com

PrintChef is a printing extension that sits
between ANY application & ANY printer driver...
It uses **Printing Styles** that we design or that
you design to control the printing process...

Compatible with Mac OS 7, 8, 9; Win 95/98 and
NT 4/5; FREE upgrade to the Mac OS X and
Win 2000 when available. Works with 680x0,
PowerMac, G4, and Intel-based machines.

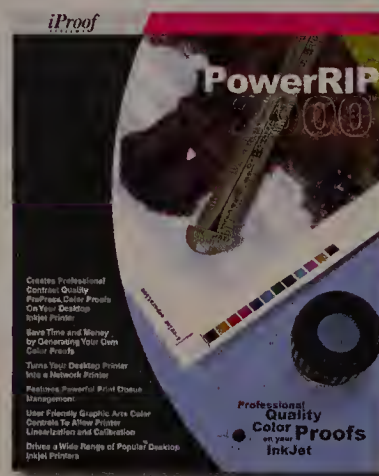
Check Color Trapping on Your Epson Color Printer



PowerRIP 2000
Shows Illustrator 8.0 Overprinting



Other PostScript RIPs
Don't Show Illustrator 8.0 Overprinting



PowerRIP 2000™

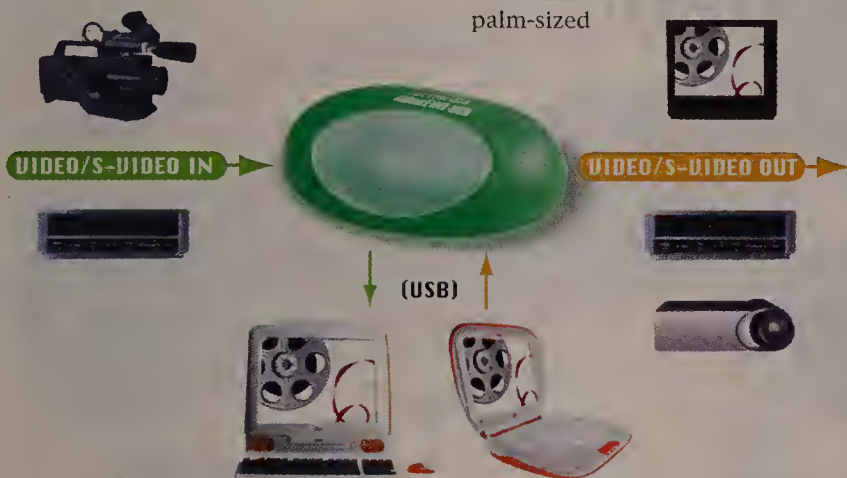
- See your color traps with the ability to combine separations
- Save time and money—make your own color corrected pre-press proofs
- Control spot color output
- Includes 1200 ICC profiles for Epson and PressProof papers
- Includes SWOP, FOGRA, Toyo and Japan S profiles
- Accepts user defined ICCs
- Network printing for all clients on your network
- Drives all Epson inkjet printers
- A true prepress PostScript RIP

Available at **MacWarehouse** or directly through **iProof Systems**
321-254-4401 • Fax 321-254-6899 • www.iproofsystems.com

The Perfect VIDEO Solution for iMac and iBook

iMaxEdit-USB

palm-sized



- Also compatible with G3 & G4
- Video Editing software included

INGRAM MICRO
THE COMPUTER DEPARTMENT STORE®

AverMedia
MicroSystems

1-800-863-2332 ext.1606 www.avermicro.com usbinfo@aver.com

TypeStyler™3

The ultimate styling tool for Internet, Print and Video.

You just won't believe your eyes!
The new TypeStyler is a powerhouse of spectacular special effects, yet retains the friendly ease of use that made the original TypeStyler so popular.

TypeStyler is the graphic designer's backroom secret weapon. Create dazzling web graphics, headlines, ads, signs, posters, videos titles and more in minutes, instead of hours!

TypeStyler is a complete stand-alone design, layout, and effects program yet also works seamlessly with Photoshop, Illustrator, GoLive, XPress, PageMaker, InDesign, FreeHand, FireWorks, and more.

- Includes style and shape libraries, design templates & 110 of the world's coolest fonts.
- Always editable -- text, shape & style -- makes changes & design reuse a snap.
- Unlimited text shaping -- circles, arcs, distortions -- any shape you can imagine.
- Integrated path editing tools to create virtually any logo or custom design.
- Create buttons, banners, image maps and JavaScript rollovers for the Web.
- Export as Photoshop layers, Illustrator, GIF, PICT with alpha, EPS, & more.



To order, call 906-863-7798 or visit us at: www.typestyler.com

©1999 Strider Software, Inc. Brand and product names are trademarks or registered trademarks of their respective holders.

What every RAD tool wants to be when it grows up

Omnis Studio is the most powerful and flexible RAD tool available for the Mac.

Omnis Studio allows you to develop on your favorite platform and deploy your solution wherever your customer needs it: Mac, Win 95/98/NT or Linux. In addition, you can call your data from Oracle, DB2, Informix, Sybase or a number of other ODBC compliant databases. Omnis Studio means you can develop where you want, deploy where you want, data store where you want.

Omnis Studio is also a powerful tool for deploying data driven solutions to the web (internet or intranet) without using Java or HTML and in a fraction of the time it might otherwise take.

Continuously being updated to reflect your needs and the latest OSs available, including OSX, and costing

just \$149 for the complete product, there's never been a better time to take advantage of all the functionality that Omnis Studio has to offer. Make the mature choice: call us today on 1-800 34 OMNIS or check it out on www.omnis.net.



OMNIS

www.omnis.net

Developer Showcase

They always said technology would make things that were **smaller, faster and better.**
They were right.

In a world that's moving ever faster, your time is the most valuable thing you have. Save time sending your files anywhere with StuffIt Deluxe™. Since StuffIt makes the smallest files of any compression software, anything you Stuff and send gets there faster. Plus, because StuffIt makes self-extracting



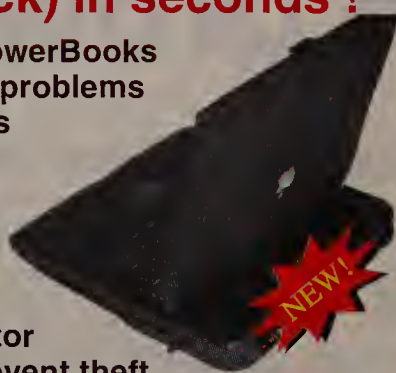
archives that even Windows® users can open, you save all that time on the phone explaining how to open what you just sent. Because they don't call to complain. And we think that's better. :-)

Aladdin Systems
www.aladdinsys.com

Compression results certified through independent testing by ACT (Archive Comparison Test). Test results available at: <http://web.act.by.net/~act/mac/act-canterbury.html>.
Copyright © 2000, Aladdin Systems, Inc. StuffIt, StuffIt Deluxe, and the Aladdin logo are trademarks of Aladdin Systems, Inc. All Rights Reserved.

PowerBook® G3 Series BookEndz® Docking Stations Convert your PowerBook to a desk- top system (or back) in seconds!

- Models for '00, '99, and '98 PowerBooks
- No more file synchronization problems
- No more damaged connectors
- Attach your peripherals once
- Dock or undock in 2 seconds
- Eliminates cable confusion
- Supports all rear ports
- No assembly required
- Lighted power/docked indicator
- Includes a security slot to prevent theft
- Insert or remove PC cards while docked
- Adds only 3" to rear of PB while docked
- Color and style matched to your PowerBook
- Eliminates the need for a separate desktop computer
- Will not interfere w/ IR port, security slot, or media bays



www.pilot-tech.com

Pilot Technologies, Inc., Minneapolis MN
Tel: (612) 828-6002 Fax: (612) 828-6806
Email: info@pilot-tech.com

BookEndz is a registered trademark of Pilot Technologies, Inc.
All other trademarks are the property of their respective owners.

LIND Automobile / Airline Power Adapters for iBook and PowerBook

- Engineered to the highest standards of quality, safety & reliability!
- Sealed for protection against moisture & high humidity!
- Filters the input line voltage against spikes or surges!
- Emulates the output of your AC power supply!
- Input Low Voltage Shutdown Protection!
- Output "Short Circuit" Shutdown!
- Automatic Adapter Reset!
- Rugged Housing for Durability!
- 3 year warranty!

Simply the Right Choice!



LIND

Lind Electronics, Inc.
641 Cambridge Street
Minneapolis, MN 55405
Phone: 612-897-7100
Fax: 612-897-7140

To Order
Call 800-897-8994
or go to:
www.lindelectronics.com

ADESSO

Input Specialists

KEYBOARDS

----- and a whole lot more!!

USB
USB

SCANNER



iScan - LE

- SCAN ANYWHERE
- RECHARGEABLE BATTERY
- WEIGHS ONLY 1 LB.
- INCLUDES SOFTWARE

Visit us at www.adessoinc.com



TRIFORM™

USB
HUB

AlphaSmart 3000 Portable Word-Processor

Simple & Portable: Full-Size keyboard. Weighs 2 pounds. Holds about 100 pages of text. Type in notes, minutes, memos, field data, etc. Plug into computer (or just point with infrared feature), press send, text flows into your application...that's it!

Compatible: Uploads to ANY application on virtually ANY computer via infrared or USB port. Prints directly to most printers.

Reliable: Rugged design. 3-year warranty. Unlimited toll-free support.

Long Battery Life: 200-500 hours on 3 AA batteries.

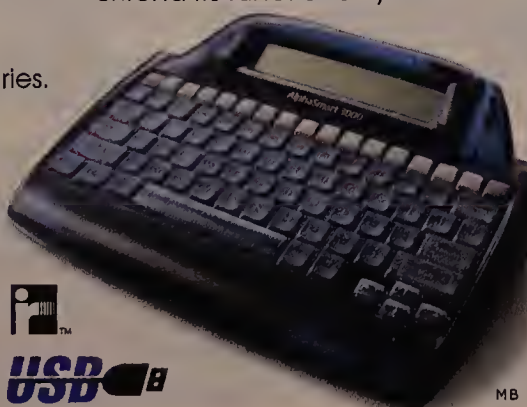
Affordable: \$199. Cables & infrared pods sold separately.

Features:

- True plug & play
- One key send
- Spell checker
- Keyword search
- Keyboarding timer
- AutoSave & AutoPower Off
- Cut, copy & paste
- Password protection
- Two-way transfer available
- Features for special needs: sticky keys, key repeat control and four keyboard layouts

Applets:

Add little software applications to your AlphaSmart 3000 to extend its functionality.



MB

Scuzzy Buddies



Affordable External SCSI DVD-ROM and HARD DISK Products

CALL . . . 612.361.3567 FAX . . . 801.327.6702



makami systems
Save trees...use CD'S

MAKAMI SYSTEMS, INC.
420 OAK ST. CARVER, MINNESOTA 55315
www.makamisystems.com info@makamisystems.com

SmartINPUT

www.smartinput.com

24-Hour Order Line:

1-800-366-8323

30-day money back guarantee



USB

Developer Showcase

FireMAX Studio With Final Cut Pro and Media Cleaner Power Suite Compression For High Quality Video Via CD-ROM or Web Delivery

Our DVTool Kit Offers
Full Luma DV Codec
and DVCpro Support

Free Peachpit Training Book
and Royalty Free Music With
Purchase of Final Cut Pro



FireMAX Studio/Pro: The Perfect DV Editing Solution

FireMAX Studio/Pro is a professional video editing system that delivers perfect digital video from start to finish via FireWire/1394 and includes Apple's Final Cut Pro v1.2.1 software and Sony peripherals. The system is greatly expandable with dozens of audio and video effects plug-ins. **FireMAX Studio/Pro** is capable of long form video editing and features time saving batch capture with time code, perfect audio sync, three point editing and more.

Turnkey Video Editing Systems

FireMAX Studio/Pro Core System: **\$5945**

Power Macintosh - Graphite - G4/450 MT, 256 MB of RAM, ZIP, 19" RGB monitor, 37 GB EIDE drive with a TurboMAX PCI EIDE host adapter (163 minutes of video), Final Cut Pro, a four meter FireWire cable, powered speakers, 14" Sony studio monitor. System configured and tested. One year toll free system support.

Boris FX v3.01 with any FireMAX/Pro bundle **399**

DVTool Kit - Full Luma DV Codec and DVCpro Support **189**

Add an additional 163 minute 37 GB IBM TurboMAX drive **395**

FireMAX Studio/Pro Complete With Sony DSR-20 Deck and DSR-PD100a: **\$11960**

Includes **FireMAX Studio/Pro Core System** plus a DSR-PD100a three CCD Sony DVCAM camcorder, Sony DSR-20 OVCAM deck, Smart Sound Pro, and Media Cleaner Pro software for creating files capable of streaming on the web or CD-ROM. Our **FireMAX Studio/Pro Complete** is ready to use digital video editing solution.

If Canon XL1 - 3 CCD Camcorder - instead of a PD100a **13460**

Video Compression Bundles

Compression Hardware/Software Bundle: **\$5995**



Media Cleaner Power Suite: Includes Ultra BlueICE Card with ICE'd Media Cleaner Pro 4, Sorenson Video, and QDesign software. This **Compression Bundle** accelerates compression for CD-ROM or video-on-demand web delivery from five to ten times and offers the highest quality audio and video available.

Studio Core System Plus Media Cleaner Power Suite **11960**

FireMAX Studio/Pro Compression as Pictured Above With Sony DSR-PD100a: **\$17955**

Includes **FireMAX Studio/Pro Complete Plus Media Cleaner Power Suite bundle** as describe above. The system is powerful and ready to use for both editing and high speed compression. Completely configured and tested prior to shipment. Includes one year system support. You will be delighted with its amazing results.

If Canon XL1 - 3 CCD Camcorder - instead of a PD100a **19460**

G3/400 PowerBook Portable Editing System



FireMAX Portable Studio/Pro

FireMAX Portable Studio/Pro Core System: **\$6495**

Power Macintosh - G3/400 PowerBook, 192 MB of RAM, 6 GB EIDE boot drive plus a 37 GB external FireWire drive, Final Cut Pro, ProMax DVTool Kit plug-in, FireWire cables, and a MacAlly USB mouse. Includes a padded carrying bag. System fully configured and tested. One year of toll free system support.

Core System Plus a GV-D900 Walkman With 8 Hour Battery **8175**

Additional 95 Minute 37 GB FireWire External Drive **645**

We Stock PAL: Sony DSR-PD100a • DSR-20 • DSR-V10 • With USA Warranty

SONY

Camcorders/Decks

DSR-TRV8 DSR-20 DVCAM Deck
DSR-TRV900 DSR-30 DVCAM Deck
DSR-PD100a DSR-40 DVCAM Deck



DSR-PD100a

DV Walkmans

GV-D900 Portable DV Deck. Includes 5.5 inch LCD Display and Speaker. Offers FireWire, S-Video, Composite, and RCA Audio Input/Output. Includes A/C Battery Charger. Uses 60 Minute DV Cassettes.

GV-D300 Same But With No Monitor or Speaker.

Canon

GL1 - 3 CCD DV Camcorder With Display, Fluorite Crystal Lens, Digital Zoom to 100x.

XL1 - 3 CCD DV Camcorder With Removable Lens. Shown With LightWave Options.



The Above Systems Can be Configured to Meet Your Exact Needs - Call For Quote and Find Out Why FireMAX Studio is a Perfect Solution - Visit www.promax.com
Ask About Our New Video Boot Camp Training Classes For Digital Video Production

1-800-977-6629

Apple Specialist



ProMax Systems, Inc.

16 Technology Drive • #102 to #106 • Irvine, CA 92618
SALES: 1-800-977-6629 • TEL: 949-727-3977 • FAX: 949-727-3546

Prices subject to change without notice - usually lower. Prices based on our 1.5.00 price list. Delivery subject to availability. Returns are subject to 25% restock fee.

We Custom Configure Macintosh Computers

Apple Specialist

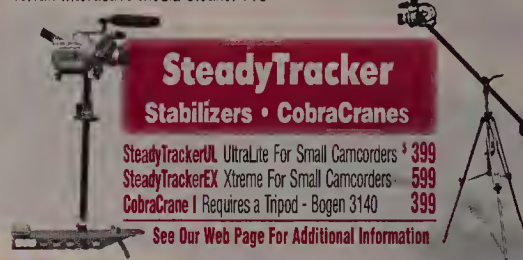
Purchase of Apple Products Must be Made Through a Direct VAR Location

Video Editing Hardware/Software:

Apple G4, Power Book, and iMacDV-SE Computers
Apple Final Cut Pro Software With Free Peachpit Book
Adobe Premiere, After Effects, Photoshop, and Illustrator
DVD Creation: DVD Pioneer DVD-R Drive and Astarte DVDirector
ICE Software and Hardware
Mackie Audio Mixers and Powered Speakers
Media 100 QX, QXC, LE, and LX
Microphones and Lighting Kits - Call For Details
Monitors: Sony NTSC - Radius and ViewSonic RGB
Sony AIT Tape Backup Systems With Retrospect
Terran Interactive Media Cleaner Pro



ASTARTE



SteadyTracker

Stabilizers • CobraCranes

SteadyTrackerUL UltraLite For Small Camcorders **\$399**

SteadyTrackerEX Xtreme For Small Camcorders **599**

CobraCrane I Requires a Tripod - Bogen 3140 **399**

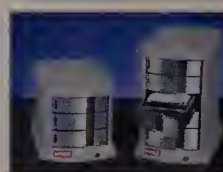
See Our Web Page For Additional Information

Ask About ICE Hardware/Software Pioneer DVD-R and Aurora Cards

NEW FireWire Disk Drives

37 GB ProMax External Drive With Power Supply and FireWire Cable **\$645**
ProMax Offers FireWire PCI Cards, FireWire Cables, and Bus Extenders

Macintosh SCSI Disk Arrays High Performance LVD SCSI RAID Systems



LVD Ultra2 Wide SCSI Disk Arrays
to 80 MB/sec - 300 KB PF
Hot Swappable Cannisters
With Security Lock and
Resettable Audible Alarm

36 GB Ultra2-SCSI 2 Drive Array - LVD	18 GB Barracuda Drives - ST-318275LC	\$1545
100 GB Ultra2-SCSI 2 Drive Array - LVD	50 GB Barracuda Drives - ST-150176LC	2495
200 GB Ultra2-SCSI 4 Drive Array - LVD	50 GB Barracuda Drives - ST-150176LC	4795

Arrays Ship With Power Cord, Disk Drives, a Cabinet With Removable Fan, and Heavy Duty Power Supply.

Add For SCSI Kit - Card, Cable, and Terminator

Ultra SCSI Kit AHA-2940UW, 3' Cable, Active Terminator, Remus	\$425
SCSI Adapter AHA-2940W Adaptec UltraWide SCSI Host Adapter	229
SCSI Adapter AHA-2930 - For Blue G3 and G4's to Run Legacy SCSI Devices	89

Award Winning TurboMAX Storage Macintosh Ultra DMA ATA Disk Drives

TurboMAX PCI Host Adapter and 11 inch Data Cable	\$199
28 GB Internal Seagate ATA-66 Drive and 11 inch Cable	265
37 GB Internal IBM ATA-66 Drive and 11 inch Cable	395
74 GB 2 IBM ATA-66 Drives, TurboMAX Card, Cables	920
148 GB 4 IBM ATA-66 Drives, TurboMAX, Bracket, Cables	1710

VIDEO BOOT CAMP!

Two Different Classes Held in Our Irvine Training Center:
#1 - "The Secrets of Final Cut Pro" • Hands-on Software Training
#2 - "Basic DV" • Scripting, Lighting, Audio, and Premiere Editing
For Information or to Register: See Our Web Page: Calendar/Events

ProMAX Offers Lease Programs With Purchase Options

Call 1-800-977-6629 • 7 am to 6 pm M-F Pacific Time
8 am to 4 pm on Saturday • Most Credit Cards Accepted
We Ship by Federal Express and Offer Expert Technical Support

Trade names are the property of their respective owners.

Developer Showcase

BELLSTOR
SIMPLIFYING STORAGE SOLUTIONS

IS THERE AN ECLIPSE IN YOUR FUTURE?

INTRODUCING ECLIPSE FROM BELLSTOR, the first simple high-performance storage solution. Featuring the highspeed FireWire interface, the BellStor Eclipse is available in Hard Disk, Tape and CD-RW models.

- Data transfer rates up to 400 Mbps
- Simple Plug & Play installation
- Hot-Pluggable
- Auto-configuring
- No device ID's or termination

BELLSTOR
SIMPLIFYING STORAGE SOLUTIONS



www.bellstor.com • (800) 800-1513

DID YOU SAY PERIPHERALS?

New USB Peripherals

New iParrott Multimedia Headsets

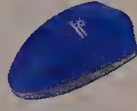
New Fully Programmable Game Controllers



FunPad Pro



iFunPad



ichiMouse



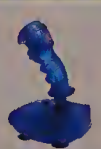
Mini Hub



iParrott Headset*



FunStick Pro



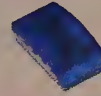
iFunStick



KeyPad



iCatch



iHub

*The iParrott is not iBook compatible at this time

ClubMac Mac Mall Mac Zone

WAREHOUSE

Outpost.com

MICRO CENTER

Macsense Connect to the
best of the 12-
http://www.macsense.com

Developer Showcase

Look.

Includes
CU-SeeMe™
full retail
version!

Who makes
the best Mac camera?

Z O O M

The full color live-motion ZoomCam™ USB installs in a snap with 704 x 576 resolution and 30 frames per second for under \$80*!

1-800-631-3116

ZOOM

www.zoom.com

© 2000 Zoom Telephonics, Inc.

*estimated retail price

Available at Fry's Electronics 650-496-6000 & Micro-Center 800-743-7537

Can uConnect™



UNIVERSAL
Mac & PC
connectors

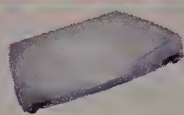


ALL IN ONE
3 uConnects + extra usb port

to your
iMac?

(877) 381-1400
www.momentumus.com

CompuCable... Making Good Mac Products Great !!



iDOCK
All-in-One iMac USB Hub



iDOCK-2
Includes ADB & Floppy Drive



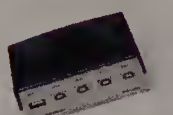
GDOCK
All-in-One PowerMac Hub



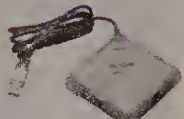
USB MOUSE
Programmable 2 Button



iSPEAKER
5 Colored Changeable Grills



USB SWITCH
4-1 Manual USB Switch



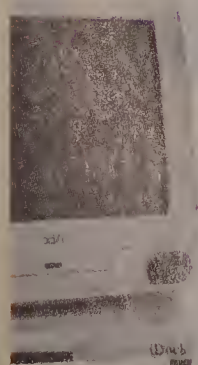
mini-GEO
USB-to-Serial Adapter



QDOCK
Compact All-in-One Adapter



mini-ADB
USB-to-ADB Adapter



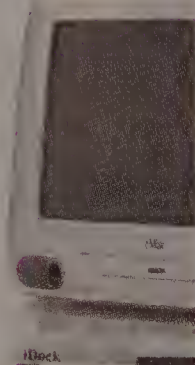
iPERIPHERALS™

THE ULTIMATE MAC SOLUTION



WWW.COMPUCABLE.COM

210A McConick Ave. Costa Mesa, California 92626 USA Tel: 800-344-8921



Developer Showcase Advertisers

Adesso	www.adessoinc.com
Aladdin Systems	www.aladdinsys.com
Aver Media	www.avermicro.com
BellStor Storage Solutions	www.bellmicro.com/bellstor
BlueWorld Communications	www.blueworld.com
CompuCable	www.compucable.com
Document Express	www.documentexpress.com
Ensign Systems	www.ensign.com
iProof Systems	www.iproofsystems.com
Lind Electronics	www.lindelectronics.com
Makami Systems	www.makamisystems.com
MindGate Technologies	www.mindgate.com
Momentum US	www.momentumus.com
OMNIS	www.omnis.net
Pilot Technologies	www.pilot-tech.com
ProMax Systems	www.promax.com
Smart Input	www.smartinput.com
STAZ Software	www.stazsoftware.com
Strider Software	www.typestyler.com
Terra Soft Solutions	www.yellowdoglinux.com
MacSense Connectivity	www.macsensetech.com
ZOOM Telephonics	www.zoom.com

PRODUCT INDEX

Category	Page No.	Category	Page No.
Business Operations	153	Systems & Peripherals . . .	160-165
Bar Code		Memory & Upgrades . . .	166-168
Inventory Management		Services	169-171
ISP	154-155	Data Recovery	
Web Hosting		Digital Production	
USB	154-156	Printing	
Education/Entertainment . . .	157	Repair	
Discount Software		Classifieds	171
Peripheral Products	158-159		
Cables		Account Manager:	
CD Rom		Carol Johnstone.....415.243.3691	
Digital Media		carol_johnstone@macworld.com	
Magnetic Media		Account Manager:	
Printing Supplies		Niki Stranz.....415.243.3664	
		niki_stranz@macworld.com	
Digital Advertising Coordinator:		Assistant and Classifieds Rep:	
Alan Anzalone.....415.243.3511		Alissa Mach.....415.243.3628	
production@macworld.com		alissa_mach@macworld.com	

BAR CODE SOLUTIONS

UPC/EAN/ISBN

Code 39

Code 128

Interleaved 2 of 5

POSTNET/FIM

And more!

Visit us online at:

www.bearrock.com

Bear Rock Offers:

Free Expert Consultation,
Lifetime Technical Support
and Satisfaction Guaranteed
on ALL Bar Coding products!



FREE Handbook

"Bar Code Basics"

A User's Guide to Bar Coding

Call Today for a **FREE Consultation!**

800 232-7625

Intl: (530) 672-0244 Fax: (530) 672-1103

160 on card or www.macworld.com/getinfo

Call Us Toll Free 800-345-4220

Broadest Selection of Bar Code Products in the Industry

- Technically superior products direct from the manufacturer
- Toll free technical and pre-sale support
- 24-hour turnaround on repairs
- Free UPS Blue shipping in U.S.
- 30-day money back guarantee

- Portable & non-portable Batch Readers
- Cordless interactive R/F Terminals
- Wand, Laser, CCD, Magstripe or Slot Badge
- PostScript bar code fonts

or visit our website at

www.BarCodeHQ.com
for a complete catalog and bar code primer

USB

Call For Free Catalog & Bar Code Primer

Worthington Data Solutions is now...

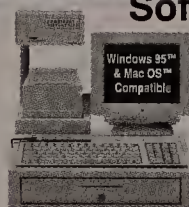
WORTH data



Phone: 831-458-9938 • Fax: 831-458-9964

POINT OF SALE • INVENTORY CONTROL

Software & Hardware for:



Now iMac compatible

- Retail/Wholesale
- Mail Order
- Internet Commerce
- Rentals
- Service/Repair
- Manufacturing
- FileMaker Tools

Fully Integrated Accounting
Multi-Site Polling • Cross Platform
Barcode Readers • Receipt Printers
Cash Drawers • Mag Stripe
Ribbons/Paper/Labels
Credit Card Authorization
& Deposit Software

www.posdirect.com

(800) 622-7670 • sales@posdirect.com

(618) 985-8237 vox • (618) 985-3014 fax

P.O.S. DIRECT

Order Free CD Rom on Web Site

165 on card or www.macworld.com/getinfo

Want to Print Bar Code Labels?

maclabel.com

USB

Ethernet

Appletalk

HP PCL5, LJM

IntelliTech
INTERNATIONAL
PH: 800-694-3034
iii@intellibar.com

Need a new ISP?

Macworld **Get** **info**

www.macworld.com/getinfo

Digging
for ideas?

Get
**FIRST
MONTH
FREE!**
(promo code:
macw-3489)

Bring your IDEAS to Life
yourname.com

Fully loaded web site for \$20

- 50 MB disk space /month*
- 2 GB traffic / month
- 10 mailboxes
- Frontpage™ server extensions
- web based control panel, web site statistics, etc.

NEW! Speciality Packages:

Media Site: featuring RealAudio®, RealVideo®, Flash™, Truespeech

Web Stores: One Stop Solutions for web store hosting, shopping carts, secure servers, credit card processing.

30 day money back guarantee!

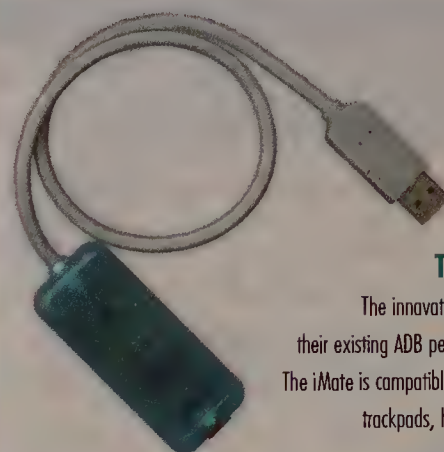
24x7 toll-free tech support

For more details visit our web page or call toll free.



www.netnation.com
1-888-277-0000
Int.: +1(604) 688-8946

*Map fees not included. Prices and features subject to change without notice.
All trademarks are the property of the respective owners.



iMate

UNIVERSAL ADB TO USB ADAPTER

Easily Connects Any ADB Device
To USB-Equipped iMac or PC Computer

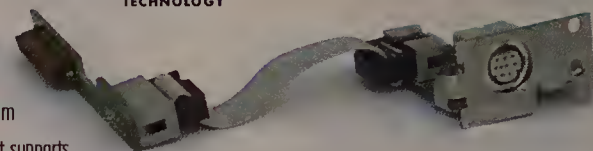
The innovative iMate USB to ADB adapter allows users to easily connect their existing ADB peripherals to iMacs, Macs with USB cards, and PCs with USB. The iMate is compatible with any ADB device including mice, keyboards, trackballs, trackpads, hardware dangles, and AppleVision displays. Retail price \$39

80 Fesslers Lane • Nashville, TN 37210
615.255.0990



info@griffintechology.com
www.griffintechology.com

The gPort universal serial adapter is the perfect companion for your new blue G3 computer. Designed from the ground up with the G3 in mind it supports every serial device that works on your older Macs.



gPort
THE SERIAL SOLUTION

- Easy to install
- Economical
- Cost Effective

With the new G3s Apple has made a bold move to faster and more universal i/a interfaces. The gPort provides a great transition for people with existing serial equipment. Retail price \$49



Nice Legs.

SRP \$29.95

- Improve airflow allowing your iMac to run cooler.
- Perfectly complements your classic or iMac DV/SE.
- Raise your iMac to a more comfortable viewing level.

For more information
on the UniRiser GoTo

www.contourdesign.com

iMac is a registered trademark of Apple Computer, Inc. All trademarks and registered trademarks are the property of their respective owners.

WHAT DO YOU WANT YOUR SITE TO DO?

2 Database Solutions:

HostPro supports a wide range of databases to meet your business needs, from the low cost *mySQL* to the popular *Access* and enterprise-class *MS SQL*...

**Access • MS SQL • mySQL • mSQL • FoxPro • ASP
ColdFusion 4.0 • InterDev • Drumbeat 2000**

3 Multimedia Solutions 4 Platform Solutions 1 E-Commerce Solutions

STANDARD FEATURES FOR ALL PACKAGES

- Your own domain name (www.yourdomain.com)
- Free domain name registration
- Both Unix and NT hosting
- 30-day money-back guarantee
- Full support for Microsoft® FrontPage 98™ and Word 2000®
- Default e-mailing capability
- Web control panel for site administration
- Unlimited autoresponders
- Unlimited FTP (24 hours per day)
- Full custom CGI execution capability
- Java™, Javascript, Servlets, Perl, C, C++, SSI & Python
- Access to our vast CGI script library
- Excite® search engine
- Controllable anonymous FTP
- Daily detailed hit analysis
- Access to raw log files
- Daily complete tape backup
- Full-time uninterruptable battery backup
- Shockwave, Quicktime, Flash, Vivo, Emblaze & MP3
- Assistance with script installation



Certified FrontPage
Web Presence Provider

Tech Support
24/7

Give your site maximum impact for minimal expense.
You owe it to yourself to contact HostPro at:

1.888.638.5831
www.hostpro.net • sales@hostpro.net

hostpro
a micron company
Your Web-hosting solution provider

230 on card or www.macworld.com/getinfo

THE WEBTECHS CHOICE	NET VALUE	\$ 19.95
	Standard features, plus: • 60MB of Web space • 2GB of traffic/month • 12 e-mail accounts	
	NET NT	\$ 29.95
	Standard features, plus: • 60MB of Web space, 2GB traffic/month, 12 e-mail accounts • ASP, ActiveX™, and VB script Microsoft Access and FoxPro database support • Microsoft Active Server Pages • Microsoft Visual InterDev and Visual Studio • Complete stat reports using WebTrends	
	NET PLUS	\$ 39.95
	Standard features, plus: • 100MB of Web space, 3GB traffic/month, 20 e-mail accounts • Advanced ShopPlus Cart (a \$500 value!) Shared secure socket layer (SSL) • PaymentNet and CyberCash™ RealAudio® and RealVideo® & G2 • Microsoft NetShow • mSQL and mySQL databases, Cron, PHP 3.0	
	NET PRO	\$ 49.95
	Standard features, plus: • 100MB of Web space, 3GB traffic/month, 20 e-mail accounts • Advanced ShopPlus Cart (a \$500 value!) Shared secure socket layer (SSL) • PaymentNet and CyberCash Cold Fusion 4.0 • ASP, ActiveX, and VB script • Microsoft Access and FoxPro database support • Microsoft Visual InterDev and Visual Studio • Microsoft Active Server Pages • RealAudio, RealVideo & G2 • Microsoft NetShow • Complete stat reports using WebTrends	

Remote Control for PowerPoint, QuickTime, DVD, CD, & MP3 Software!

NEW



Digital Media Remote

USB remote control for PowerPoint, DVD, CD, & MP3 software players (\$79)

USB Twin Serial Adapter

- Add 2 Mac serial ports to your USB Mac (\$79)
- For use with tablets, modems, cameras & many printers
 - Get two ports for the price of the single port solutions!

Macworld



USB PDA Adapter

Connect Palm organizers to your USB Mac or Win98 PC (\$39)

USB 4-Port Hub

Connect more USB devices to your USB Mac (\$49)

Keyspan USB Card

Add 2 USB ports to your PCI PowerMac (\$39)

SX Pro Serial Card

Add 4 serial ports to your PCI PowerMac (\$179)



"One of the coolest & most convenient gadgets you can purchase" - MacNN, Nov 99



www.keyspan.com
(510) 222-0131

170 on card or www.macworld.com/getinfo

Port Short?

STEALTH[™] Serial Port

Now available for the Power Mac G4 & G3 and iMac

Easily Connects Your Serial Peripherals to the Power Mac G4 & G3 and iMac

Easy to install and use
Functions like a standard Mac serial port
Works with LocalTalk, MIDI, all serial printers, modems, digital cameras

Only \$49.95

www.geethree.com

MIDI

LocalTalk

PalmPilot

MODEM

Digital Camera

Serial Printer



GeeThree.Com

261 Hamilton Ave, Suite 311 • Palo Alto, California • 94301
phone 650.328.2359 • fax 650.328.8092 • email info@geethree.com

168 on card or www.macworld.com/getinfo

The Easy-Switch

One Monitor
One Keyboard
One Mouse
Your Computers!

KVM Switches
in ADB & USB for
2 or 4 Computers.

Dr. Bott

(503) 452-8101 • (503) 892-2475 fax

info@drbott.com • www.drbott.com



MoniSwitch

USB



iBookBag in Graphite
Tangerine, & Blueberry also
available from Dr. Bott LLC!

www.drbott.com

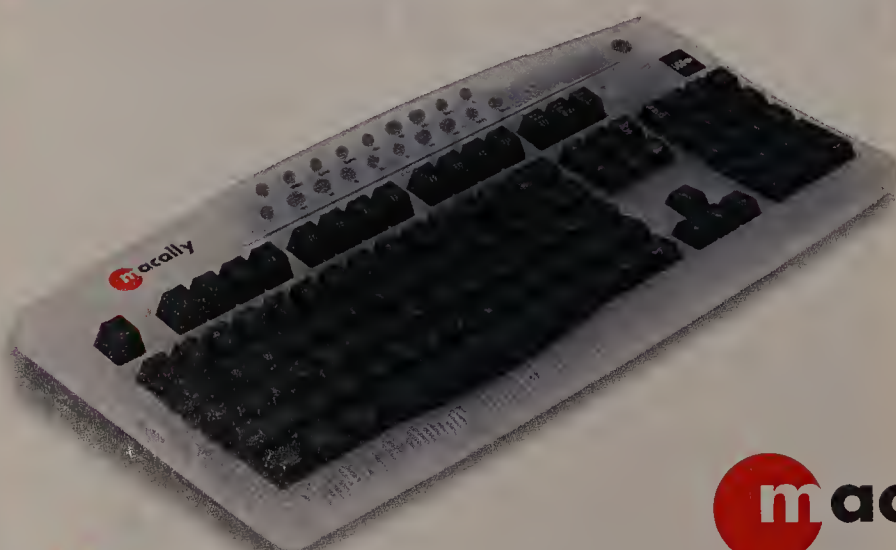


173 on card or www.macworld.com/getinfo

macally

iMediakey[®]

Macally USB Multimedia Keyboard



macally
iHub Jr.[®]



macally
iMouse Jr.[®]

CardBus
FireWire



macally[™]

Macally is proud to bring you the latest USB and FireWire peripherals for Mac users. Our full line of products are specifically designed for your Mac to improve your productivity. Please visit our website to see what Macally has to offer for all your peripheral needs. We work hard to provide you with the best peripherals for your Mac.

Call us for dealers near you 1-800-644-1132 or visit us at: www.macally.com

All trademark or registered trademarks are the property of their respective owners

159 on card or www.macworld.com/getinfo

SAVINGS FOR STUDENTS & TEACHERS

EDUCATIONAL DISCOUNT SUPERSTORE / UP TO 80% OFF

FREE CATALOG 800-699-1836



BEdit 5.1.1.....	\$79
Coda Finale 2000.....	\$249
Cubase VST 4.1.....	\$199
ElectricImage 3D 2.9.....	\$739
Eye Candy 4000.....	\$79
FileMaker Pro 5.0.....	\$159
Flash 4.0.....	\$99
FreeHand 9.0.....	\$99
HomePage 3.0.....	\$59
HyperStudio 3.3.....	\$119
LightWave 3D 6.0.....	\$889
MacLinkPlus 11 Deluxe.....	\$75
Mask Pro 2.0.....	\$99
Media Cleaner Pro 4.0.....	\$319
Myrmidon 2.1.....	\$39
PhotoTools 3.0.....	\$79
Poser 4.0.....	\$179
RayDream Studio 5.5.....	\$229
Stuffit Deluxe 5.5.....	\$55
TechTool Pro 2.5.....	\$85
Vectorworks 8.5.....	\$339
Virtual PC 3.0.....	\$169
Wacom Intuos 6x8 USB.....	\$285
WordPerfect 3.5.1.....	CALL
Xenofex 1.0.....	\$79



**Dreamweaver 3.0
Fireworks 3 Studio** **\$149**

New Version!



Final Draft 5 **\$149**



**Freehand 9
New Version** **\$99**



**CodeWarrior
Pro R5** **\$119**

(800) 699-1836

Phone 732-660-8820 • Fax 732-660-8828

* Not responsible for typographical errors * Prices subject to change

Visit our website for over 5000 titles!!

Software Showcase
1775 Hwy 34 South, D12
Wall, NJ 08736

www.softwareshowcase.com

168 on card or www.macworld.com/getinfo

Learn AppleScript



www.TECSoft.com
800-626-4119

Are you a
student or a
teacher?
Great
discounts on
this page!

STUDENTS!

Save up to 75% OFF
popular software!



Adobe
Microsoft
Discreet
Microsoft
MetaCreations
Macromedia
AliasWavefront
Softimage
Autodesk
Extensis
Alien Skin
Digimagination
Symantec
Corel
ADAM
Wacom
Many
More!!

THOUSANDS OF TITLES AVAILABLE!
FREE CATALOG!

Serving students & schools since 1990

1-800-874-9001

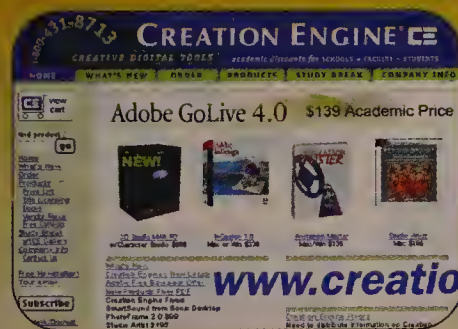
JourneyEd.com

Journey Education Marketing

www.JourneyEd.com

174 on card or www.macworld.com/getinfo

ACADEMIC DISCOUNTS on CREATIVE DIGITAL TOOLS



explore our web site!

www.creationengine.com

call for a free catalog!

1.800.431.8713

- PRODUCT INFO
- ACADEMIC PRICES
- ONLINE ORDERING
- REVIEWS
- TUTORIALS
- ARTWORK



Students, faculty, and schools can save up to 70% on the hottest creative digital software from over sixty companies, including Adobe, Macromedia, MetaCreations, Discreet, Newtek, and Hash.

CREATION ENGINE, LLC

ACADEMIC DISCOUNTS

Super Savings for Students, Teachers, & Schools!

JUST A FEW
OF OUR
EVERYDAY
LOW PRICES!



"Helpful sales people that really know what I'm talking about plus discounted prices... I love you guys!"

— Ashley B.
Elementary School Teacher

Macromedia Internet Studio

Dreamweaver 3 & Fireworks 3

ALL FOR ONLY: **\$148**

MetaCreations 3D Suite v4.0

Bryce 4, Poser 4 & Canoma

ALL FOR ONLY: **\$299**

"Your 'Buy Now, Shop Later' policy makes it easy for me to know I'm always getting the best prices."

— Andrew H.
University Student

ADAM A+ Bundle	\$129	Electric Image	\$639	Mathematica 4	\$129
Boris FX	\$399	Filemaker Pro 5	\$148	Norton Utilities	\$59
Bryce 4	\$139	Fireworks 3	\$98	Office 98	Call!!
Canvas 7	\$189	Flash 4	\$98	Painter 6	\$209
Carrara	\$199	FormZ 3.5	\$849	Vectorworks 8.5	\$329
Coda Finale 2000	\$199	Freehand 8	\$98	Omega	Call!!
CodeWarrior Pro 5	\$109	KPT 6	\$79	Wacom 6x8	\$284
Director 7	\$329	Lightwave 3D 6	\$799	(PC titles also available!)	
Dreamweaver 3	\$98				

Visit AcademicSuperstore.com for online ordering & thousands of other products!

CALL FOR YOUR FREE CATALOG

1-800-333-8571

Fax PO's and ID's to 512-450-0263

www.AcademicSuperstore.com



**ACADEMIC DISCOUNT
SUPERSTORE**

180 on card or www.macworld.com/getinfo



Tendonitis, Carpal Tunnel? RELIEF GUARANTEED

- 2-3 Minutes • 2-3 Times A Day
- Medically Proven Relief

www.armaid.com

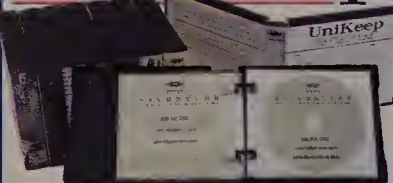
Armaid™

The New Solution for Repetitive Strain

877.4.ARMAID

Introduced at COMDEX!

UniKeep™



Lightweight & portable • Clear overlay cover for insertable graphics • Full-flip, interchangeable access for up to 10 discs & graphics

FREE SAMPLE (US addresses only) with \$4 s/h to P.O. Box 28398, Columbus, OH 43228 or order online at www.univenture.com

UNIVENTURE
DISC PACKAGING & SYSTEMS

Retail distributors call 800.992.8262 for more information. Safety sleeve and the Safety sleeve logo are registered trademarks of Univenture, Inc. Patents and patent pending for UniKeep™. Sleeves made in the USA and Ireland. Cases made in the USA.

183 on card or www.macworld.com/getinfo

Macworld.com

No one knows the
Mac world like

Macworld
online



Aeron Chair

800-883-9697

www.sittingmachine.com

187 on card or www.macworld.com/getinfo

Custom **ULTRA-3 SCSI LVD 160MB/s** Cables - Terminators - Cases

If you want Ultra SCSI Performance use our Teflon Cables & Active Terminators.

SCSIVue™ Active Terminator



Four models available with optional Remote LED Pak. These are the finest terminators available, they fix SCSI problems and improve reliability.

- Benefits:
- Improves SCSI Bus Performance
 - Less Errors; More Reliable Data Transfer
 - Diagnoses Problems • Analyzes Signal Quality

- Features:
- Active Regulation • Fast 50 & Fast Wide 68
 - Status Indicators • Gold Contacts



The Book of SCSI

- Benefits:
- Learn the secrets about SCSI
 - Teaches basics thru advanced
- Features:
- Connector pin outs and details
 - History of different SCSI specifications

Gold Diagnostic Adapters

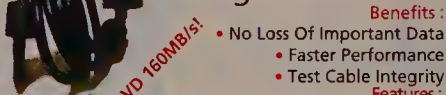
- Both 50 pin and 68 pin (all combinations) Gender Changer

Drive Bus Changer (run 68 pin on 50 pin bus)
From: **\$49**

Styles: 68 pin Drive to 50 Bus
• 68 Pin Drive to 50 Pin IDC (runs wide drive as narrow)
• 68 Pin External Adapter to 50 Pin (converts Host Adapter)
• 68 Pin to 50 Pin Centronics or 50 Pin Micro Adapters
Style: For Adapter Ultra Wide Cards
• Adapter with partial termination built in for 68 to 50 converters (converts Host Adapter)

Online Catalog at... www.scsipro.com

SCSIVue™ Gold Diagnostic Cables



From: **\$39** NOW! **Ultra-3 LVD 160MB/s!**

- Benefits:
- No Loss Of Important Data
 - Faster Performance
 - Test Cable Integrity

- Features:
- Diagnostic Indicators • Large Ferrite Filters
 - Triple Shielding (Unique Design)
 - Double Gold 20u" Plated Connectors
 - Extra Heavy 26 Gauge Wire • 100 Styles in Stock

Teflon® 90 Ohm External Cables

- Benefits:
- Ultra SCSI 160 MB/s operation
 - Fixes Ultra SCSI Cable Problems

- Features:
- Perfect 90 Ohm Impedance Match
 - Triple Pronged Connector With Gold contacts

Hot Swap Powered Terminator

Now you can safely remove any SCSI device from a SCSI chain by simply clicking a switch. The Hot Swap Powered Terminator also has an optional Power Supply so that it can supply termination power to portable setups or when termination power is not being supplied.

From: **\$69**

Granite Cables Are The Best Because They're Engineered Right.
Granite Cables were designed by SCSI Engineers to be the **Best Cables On The Market**. Everything about them means better performance and higher reliability. Our design incorporates an exclusive shield that protects the Acknowledge and Request lines from noise. Large Ferrite beads are installed on all cables to protect them from static and noise. Every cable incorporates a LED indicator that lets you know it is operating properly. We also use more **GOLD** on every cable. Add to this our impedance matching techniques and you have most of what makes us THE BEST!

Granite "The SCSI Solution Company"

Granite
D-I-G-I-T-A-L

Our knowledgeable SCSI Technicians will solve all your SCSI problems... guaranteed!

External Ultra SCSI Cases

• Ultra SCSI Custom Teflon Cable Available

• Custom Enclosures in 1 Day for Raid & Arrays

From: **\$99**

NEW! Temperature ALARM!
Automatic Monitor & Control

14 & 29 Bay Ultra SCSI Towers

From: **\$999**

- OPTIONS:
- Ultra LVD Cable Kit
 - Dual Redundant PS
 - Bay Coolers w/ Brk
 - Temp Alarm System

Bay Cooler Kit keeps those HOT Ultra SCSI Drives GOLD as IDE

Dual Fan & Bracket **\$29**

HOT SWAP Pull Out Bays

Compatible with all 50 pin & 68 pin SCSI Buses up to Fast SCSI 2. From: **\$79**

(LVD)-TPO Teflon® Internal Cables

Teflon® is a registered trademark of DuPont

- Benefits:
- Less Errors, Ultimate Performance
 - Silver Wire Improves Signal Quality

From: **\$39**

- Features:
- Perfect 90 or 132 Ohm Impedance • Custom in 1 Day
 - Triple Pronged Connector - Gold contacts Silver Wire

50 Pin Replacement Cable for Internal Drive Cables

68 Pin Replacement Cable for External Drive Cases

TEFLON TPO

From: \$99 Active Digital SCSI Repeater

- Benefits:
- Models for all SCSI types
 - Fixes SCSI Cable Problems

- Features:
- Doubles Cable Length (up to 18')
 - Active Termination and Signal Purification
 - Ultra Fast Performance for Added Capabilities
 - Diagnostic Capabilities • 30u" Gold Contacts

PS Included

SCSI Cable Tester - LED Readout

This Digital SCSI Cable Tester can test all the popular cable styles for opens, shorts, and unreliable operation. Battery powered for easy use anywhere you need it.

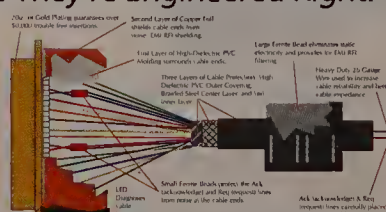
Three models to choose from:

- 50 pin IDC
- 50 pin Centronics
- 68 pin MicroD

Special Package of all 3: \$99

FREE Technical Support!!!

Available to everyone, customer or not.



MCE POWERBOOK PRODUCTS



CUSTOM POWERBOOK CONFIGURATIONS ASK ABOUT OTHER CUSTOM CONFIGURATIONS & SOLUTIONS!

Apple PowerBook 2000

- 400MHz/1MB L2 cache
- **12GB Hard Drive**
- 14.1" Display
- 64MB SDRAM
- 2 FireWire Ports
- 2 USB Ports
- DVD-ROM Drive
- AirPort Ready



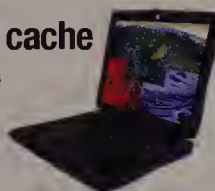
\$2649

compare to \$2799*

w/18GB HD...\$2799
compare to \$3099*

Apple PowerBook 2000

- 500MHz/1MB L2 cache
- **18GB Hard Drive**
- 14.1" Display
- 128MB SDRAM
- 2 FireWire Ports
- 2 USB Ports
- DVD-ROM Drive
- AirPort Ready



\$3699

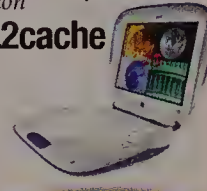
compare to \$3799*

w/extra Micro-AC Adapter
& Battery...\$3899
compare to \$3997*

* Apple Store price 2/18/00

Apple iBook Special Edition Graphite

- 366MHz/512KB L2cache
- **12GB Hard Drive**
- 12.1" Display
- 64MB SDRAM
- 1 USB Port
- 6 hour (max) battery
- 24X (max) CD-ROM



\$1999

300MHz (Tangerine/Blue)
w/12GB HD...\$1799

- Wireless networking w/ optional AirPort card and base. AirPort card...\$99 Base...\$295



COMPLETE POWERBOOK STORAGE SOLUTIONS



MCE MobileStor Internal Hard Drive Upgrades

For use in PB 2000, iBook, PB G3 Series, G3, 3400, 2400, 1400, 5300, 190, & Duo 2300

MobileStor 6400	6.4GB	3 yr wty	\$229
MobileStor 12G	12GB	3 yr wty	\$349
MobileStor 18G	18GB	3 yr wty	\$599
MobileStor 25G	25GB	3 yr wty	\$729

Included **FREE** in every MCE MobileStor hard drive upgrade solution is the **complete MCE PowerBook Hard Drive Installation Kit** which includes an illustrated installation manual, and all of the appropriate tools and brackets needed for the proper installation of your new MCE MobileStor hard drive kit.

MCE Xcarét Pro Media Bay Hard Drives

- Ultra Fast! • Hot Swappable
- Compact • Protective Carrying Case
- Kit is perfect for your old internal PB drive!*

18GB	12GB	6GB	Kit
90 minutes*	60 minutes*	30 minutes*	
\$699	\$499	\$349	\$149

*approximate FireWire DV Capture time

* See web site for details.

MCE DataShuttle PC Card Hard Drives

- Completely Portable
- Hot Swappable • Boots your PB*
- Carrying Case • Powered by PC Card Slot!
- Kit is perfect for your old internal PB drive

18GB	12GB	6GB	Kit
\$649	\$399	\$299	\$129

* See web site for details.

MCE CardBus Upgrade Service for PB 2400 & 3400/G3

opens up the possibilities for **USB, FireWire, 10/100 Ethernet, expanded Video**

See website for details!

TURN YOUR POWERBOOK OR IBOOK INTO A VIDEO POWERHOUSE!

CapSure Card \$119
• Type 2 PC Card • Import movies or stills thru in S-Video or Composite • Full-Motion (up to 30fps) preview at up to 1024x768

Kritter USB Camera \$119
Blue, Orange, Black, or Ice

CapSure/Kritter SV BUNDLE DEAL! \$239 **Kritter SV Camera \$139**
Requires CapSure Card

newer tech

FireWire 2 Go CardBus PC Card \$149 Connect to your DV camera!
BookEndz Dock for PB G3 Series-99/2000 \$199/\$219 Connect to all of your peripherals in an instant!

KORATOC Systems

CBFW2 FireWire CardBus PC Card \$149
CB31PB Ultra SCSI CardBus PC Card \$149
CB32PB UltraWide SCSI CardBus PC Card \$259

High-speed PC Card adapters for audio/video data transfer on your PowerBook!

WORLD'S SMALLEST POWERBOOK AC ADAPTER!

FOR PB 2000, iBook, PB G3, 3400, 2400, 1400 & 2300

SMALLER THAN APPLE'S SMALLEST ADAPTER!!

only \$85
Save space and weight in your carrying case!

MADSONLINE

Perfect fit for PowerBook 2000 & G3 Series 99/2000

PowerBook G3 Series Carrying Cases
Slimline Case...\$99
Productivity Case...\$139



FireWire 18GB Portable Hard Drive See web site for BUNDLE deals! **\$899**
Zip 100 Drive PB 2000/G3 Series/3400/1400 \$209/\$209/\$219/\$209
Zip 250 Drive PB 2000 and G3 Series \$299
Li-Ion Battery, Power Adapter & Charger PB G3 Series 99/2000 \$299
DVD-ROM Kit for PowerBook G3 Series 99/2000 \$399

Apple Computer

PowerBook G3 Series 99 \$129
PowerBook 2400 \$249

High-Capacity Li-Ion Batteries!

macally

iMouse Jr. USB for iBook \$29
CardBus to USB Adapter \$79

Century USB CD-RW Drive \$399
Ultra-compact & Portable!

Kensington Notebook MicroSaver Security System \$43

PowerBook Memory Upgrades
See web site for latest pricing!!

Port Media Bay Accessory Pouch \$19
Convenient protection for all media bay devices!

MCE USB Floppy Drive \$69
Perfect for iBook or PowerBook!

Infinity Micro™

800-589-1234

Int. (310) 470-9426, Fax: (310) 470-4956
Mon-Friday 8AM-6PM. 24 HR. Online Ordering.
2289 Westwood Blvd. LA, CA. 90064

email us at: Sales@infinity-micro.com

Best Prices, Service & Delivery!!!

We carry over 60,000 products to choose from with unbeatable prices!

www.infinity-micro.com



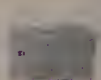
\$1385.



\$699.



\$1349.



\$799.



\$276.

PowerMacs

G4/500 256/27GB/DVD/Zip
G4/450 256/27GB/DVD/ZIP
G4/450 128/20GB/ZIP/DVD/56K
G4/400 128/20GB/DVD/56K/ZIP
G4/400 64/10GB/DVD/56K
G4/350 64/10GB/32X/56K
G4/350 64/10GB/DVD/56K
G3/400 128/12GB/CD/ZIP
G3/400 64/6GB/DVD
G3/350 64/6GB/CD
G3/400MT 128/9GB/CD
G3/333MT 128/9GB/24X
G3/350MT 128/12GB/CD/ZIP
G3/300MT 64/6GB/20X/CD/ZIP*
G3/266DT 32/4GB/24X*
9600/350 64/4GB/24XCD*
9600/233 32/4GB/CD
9600/200 32/4GB/CD
8600/200 32/2GB/CD/ZIP*
7300/200 32/2GB/24X*
7100/80 8/500/CD*
4400/200 32/2GB/CD *
7200/120 32/1.2/8xCD*

CALL
2295
CALL
CALL
1495
CALL
CALL
1599
CALL
CALL
CALL
CALL
CALL
1295
1095
2195
1399
1299
945
549
179
395
349

Imacs

IMAC G3/400 128/13GB/DVD/56K
IMAC G3/400 64/10GB/DVD/56K
IMAC G3/350 64/6GB/24XCD/ZIP
IMAC G3/333 32/6GB/24XCD
IMAC G3/266 32/6GB/24XCD

1459
1249
949
745
699

Monitors

Studio Display BLUE 21"
Studio Display Graphite 21"
Studio Display Graphite 21"
Apple Studio Display 15" Blue
Apple Studio Display 15" Graphite
Sony E100/E210
Sony G200/G400/G500
Sony 420GS/520GS
Sony F400/F500
Viewsonic Monitors
Rastropis Monitors
Radius Monitors
KDS Monitors

1095
1395
1229*
849
1229
195/369
439/629/1129
529/929
929/1749
CALL
CALL
CALL
CALL

PowerBooks

G3/500 128/12GB/DVD/56K/14.1
G3/400 64/6GB/DVD/56K/14.1
G3/333 64/4GB/24X/56K/14.1
G3/300 64/8GB/DVD/56K/14.1
G3/300 64/8GB/CD/56K/14.1
iBook G3/300 64/6GB/CD/56K
G3/292 64/8GB/20X/56K/14.1
G3/266 64/4GB/20X/56K/14.1
G3/250 32/5GB/20XCD/56K/13
G3/233 32/2GB/20X/56K/14.1
3400C/240 16/3GB/CD/MDM
3400C/200 16/2GB/CD/MDM
3400C/180 16/2GB/CD
1400C/166 16/2GB/CD
1400C/133 16/1GB/CD
1400CS/133 16/1GB/CD
5300C 16/1GIG
5300CS 16/750
540C 20/320/MDM
180 14/120/14.4 Fax
Apple Duo Dock II PLUS

CALL
CALL
1995
2095
1895
CALL
CALL
CALL
CALL
CALL
999
899
899
CALL
995
695
CALL
CALL
199
99

Printers

HEWLETT
PACKARD
LaserJet 2100M/2100TN
LaserJet 4000N/TN
LaserJet 4050N/5000
LaserJet 5000N/5000GN
LaserJet 8000N/DN
LaserJet 8100N/DN
LaserJet 8500N

629/799
995/1095
1095/1245
1675/2095
1699/1999
2499/3299
5499

EPSON

Stylus Pro-XL 11x17
Stylus 750/760
Stylus 740/740i
Stylus 850/850NE
Stylus 900/900N
Stylus Photo 1200/750
Stylus 1520/3000
Stylus 5000
Laser EPL-5700i

175
229/229
189/229
329/449
349/549
439/269
439/995
2295
375

Scanners

DuoScan SOLO/ T1200
Snapscan 1212U/1236S

EPSON

Expression 800 ART/EXE
Expression Pro/836XL

MICROTEK

Scanmaker 35T PLUS
ScanMaker 4/FL / 4/G3
ScanMaker 5 DUAL PSLE
Scanmaker 6400XL DUAL
Scanmaker 9600XL

499
609/619
2169
898
1199

UMAX

Astra 2000U/2100U
Astra 1220S/2400S
Mirage II/IISE
PowerLook 3000
PowerLook II/IIIE/II

118/149
128/279
1599/1079
5799
5895/949

GE Extended 4 year warranty Available. (*)= reconditioned products. Visa, MC,AMEX, Fortune 500, Universities, Govt. & corp. p.o.'s are welcomed. prices are cash discounted& are subject to change with out notice.!

202 on card or www.macworld.com/getinfo

Software Specials QuarkXpress4 \$649

Apple MacOS7.6/8/8.1/8.5/9 \$49/49/55/59/89
Act V2.8/Acrobat V3/V4/Reader \$119/89/189/29
AntiVirus5/SAM V4/AppleShare IP6.3 \$39/429
Bryce2/30/4/30 Suites \$69/99/155/379
Claris EMailer/DRAW/Calendar Maker \$69 ea.
Claris Works V4/5/Meta C. Canoma \$39/59/389
Claris Impact/Organizer2/HomePageV3 \$49 each
Corel DRAW8/9/WordPerfect V3.5 \$149/289/\$75
Director V5/Studio6/Studio6 \$199/389/489/589
OeBabelizer V3/ Dantz Retrospect4.2 \$199/99
Dreamweaver2/Extensis MaskPro2 \$229/199
Extensis Preflight Pro/ PhotoGraphics \$239/99
Extensis PhotoTool3/QXTTool4 \$129/129
FileMakerPro V2/4/1/Server3 \$49/99/159/589
Final Cut Pro/FlightCheck/Upg. \$949/\$355/85
Flash 4/ Freehand 8/DreamWeaver3 \$249 ea.
Fontographer V4/Freehand V5 Studio \$199 ea
Freehand V8 COMP./Upgrade \$99
FrameMaker5.5/FireWorks3/Flash4 \$489/159/239
FWB Hard Disk Tool Kits PE/V 3 \$39/89
GoLive4/Infiniti-D V3/4/4.5 \$259/349/399/489
IllustratorV5.5/6/7/8/Fireworks2 \$89/189/289/99
Kai's PowerTool LE/V3/V5/V6 \$29/69/95/145
Microsoft
Office4.2.1/97Pro./2000\$149/199/389
MicrosoftOffice98Upg/98CD/98
Full\$99/229/\$299
MediaCleanerPro4/QuarkXpress4.0.4 \$389/649
Norton Utilities/Anti-Virus Bundle \$79 both
Norton Utilities V3.5/4 NetObjectV3 \$39/49/149
Painter3/4/5/5.5/FrontPage98
\$69/95/149/229/99
Pantone Color Drive/PageMill V3 \$69 each
PageMaker V5/6.5/PhotoFlash \$189/289/69
Persuasion V3/V4 PowerPoint98 \$99/189/189
PhotoFrame Vol 1/2 \$89 ea. \$159 both
Premiere
LE/V3/V4/PhotoDuke2 \$89/189/289/19
Poser V2/3/4/QuarkXpress4.0 \$79/139/229/649
Quake BackPro V4/Quicken 7/Deluxe \$129/29/35

Apple G4 - \$1489

G3 500MHZ 8&W/ SCSI-8eige \$1789/1989
G4/350/400/450MHZ \$1489/1789/2959

JAZ/ZIP, Hard DR. & CDR

400MB/1GB/2GB/3GB \$69/119/149/169
4GB/6GB/9GB/18GB \$195/259/299/459

*UMAX Mirage D16L Color

Scanner-12X17, Dual Lens

w/Transparency \$1089

*UMAX PowerLook 3000,

3000 DPI W/Trans. \$4899*

*Kodak DC200+ Digital

Camera (1152 X 864) - \$249

*QMS ColorMagic 330EX -

192MB/Internal Hard Drive \$4389

EpsonPhotoEX/1520(17X22) \$299/369

Jaz ext. Dr. 1GB/2GB \$199/\$339

Zip Dr. w/Cart. Int./Ext. \$79/\$99

Ricoh 6X/4X/24X w/Toast \$269

Yamaha CD-RW 8X/4X/24Xw/Toast \$369

OVD-RAM 5.2GB SCSI \$779

COMBO Drives:

9GB + CD-R Ext. SCSI \$699

18GB AV + JAZ + CD-R \$989

JAZ+ZIP+CD-RW \$589

Tape/FireWire Ext. Drive

SDT2000/4000/5000 \$199/399/499

SDT7000/9000/10000 \$699/789/1049

DLT 30/40/60GB \$1189/1489/1989

FireWire Drive 27GB/37GB \$499/599

Super RAID- Quantum/Seagate

SCSI Case HH/FF \$29/49*

• 8GB/18GB RAID - \$489/\$689

• 36GB/72GB RAID - \$989/\$1989

lomega

1.0GB Jaz \$79*

100MB Zip \$9*

SyQuest

44MB/88MB \$25/35

200/EZ230 \$49/39

SyJet 1.5GB \$95

M.O. Cart.

128/230MB \$6/12

640/650MB \$29/34

1GB Tahiti \$89

1.2/1.3GB \$49/59

2.6/4.6GB \$149/189

Close-Out

*Targa 2000

Pro/RTX\$2489/3889

*Targa 2000 Pro

W/Apple Final Cut

Pro Bundle \$3299.

*64/128MB

PC100 - \$99/199

*SyQuest 270/200M8

Ext. Drive \$199/159

*Fujitsu230/640MB/

WAN DAT-199/279/199

*M.O. 1.3/2.6/4.6GB

\$989/1489/1889

*AUTOCAD 14 \$889

Canvas V6/V7 \$249/329

*Conflict Catcher V3/4/8

\$39/59/67

*M.S. WIN95/98 \$69/89

*M.S. Words V5/V6/98

\$99/149/199

*WordPerfect3.5/DRA

W \$75/149

Local: (303) 571-1900
Fax: (303) 571-5020
Hours: M-F 8-6 Sat 10-5

MediaGuide

Your #1 Macintosh Source!

SHOP ONLINE!

Need a Mac?
Need stuff for your Mac?
We've got it.

NEW • USED • PARTS • RAM •
PERIPHERALS & TONS MORE
www.MediaGuide.com

OEM CDs:

MacOS 8.5.....\$49
Norton Util 4.0...\$12
ClarisWorks 5....\$29
MacOS 8.1.....\$29

Brand New

Sony 24x
CD-ROM
Int.....\$79
Ext...\$109

HOT Bundle specials! (CPU plus 13/14 monitor, kb/m)
Ilii 8/425...\$129 • Ilii 9/230...\$119 • Ilii 8/425...\$139
Q650 16/425/CD...\$199 • Q630 20/250/CD...\$199
6100 24/350/CD...\$299 • 7100 40/425/CD...\$399
Many additional models available! Call for details!

Duo 280c 40/1gig/14.4..\$349

Not online? No problem! Call (888) 466-2271

Mac POWER

Sales & Service, Inc.
BUY • SELL • TRADE
UPGRADE • REPAIR
New • Used • Refurbished
Powerbooks • Monitors
PowerMacs • Printers
Performas • Peripherals
Quadras • Ram
MacII-LC • Parts
www.macpowerinc.com

888-275-POWER

Fax: 408-448-6132
San Jose, California, 95123

"I DEPEND ON MACWORLD
TO HELP PUT ME IN TOUCH
WITH EVERYONE FROM
BANKERS TO MUSICIANS."

Jim McGraw
Owner

www.sittingmachine.com

Macworld

SHOPPER

Fax: 310-782-5974

<http://www.imagesolutions4u.com>

E-Mail: imagesol4u@AOL.com

385 Van Ness Ave. #110 • Torrance, CA 90501

800 352-3420

Image
Solutions



Save on Reconditioned Macs & Peripherals

RECONDITIONED G3s

Beige DT/233 32/4G/CD	\$1049
Beige DT/266 32/4G/CD	\$1099
Beige MT/266 32/4G/CD	\$1149
Beige MT/300 64/6G/CD	\$1299

POWERBOOKS

540c 12/320/Mod	\$349
5300cs 16/750	\$399
5300c 16/750	\$449
3400c/180 16/1G/CD	\$949

POWERMACS

6100/60 8/230/CD	\$149
7200/75 24/500/CD	\$249
7200/90 24/500/CD	\$279
7200/120 24/500/CD	\$319
7500/100 24/1G/CD	\$449
7600/132 24/1G/CD	\$499
8500/120 32/2G/CD	\$549
9500/132 32/2G/CD	\$649

All CPUs include mouse.

More products @ www.datatech-rmkt.com

TO ORDER CALL

1-800-281-3661

DataTech

REMARKETING, INC.

Ask about the 6-month warranty.
VISA & MasterCard accepted.

Tel: 615-860-4422 Fax: 615-860-0390
471 Myatt Dr., Madison, TN 37115

Corporate names and trademarks are the property of their respective owners.

macs forrent

a new DataTech Remarketing service

one week
three months
G4
Powerbook

log on & inquire
www.macsforrent.com

MacMart

Systems & Peripherals
www.macmart.com

PRINTERS / SCANNERS / CAMERAS

Agfa 1212U / EPhoto 780C	\$89 / \$189
Epson Stylus 740 / 750	\$145 / \$229
Epson 2500 USB Copier-Scanner & Printer	\$429
Epson 800 Exec. / 836XI	\$599 / \$2159
Epson Stylus 1520 / 3000	\$459 / \$1149
HP DJ 810C USB / 830C USB	\$159 / \$199
HP LaserJet 2100M / 2100TN	\$759 / \$965
Microtek X6EL / IV / 35T+	\$139 / \$539 / \$449
Nikon CoolPix 800 / 950	\$619 / \$869
Tektronix Color Laser 740 / 840	\$1849 / \$2345
Umax 2000U / Powerlook III	\$115 / \$799

* Brand Names are Trademarked with their respective holders. Prices listed are COD * Price & Availability Subject To Change.

POWERBOOKS

Call Us For New Powerbook Models

iBook 300 12.1" 32 - 3.1 CD-56K	\$1499
G3/333 14.1" 64-4GB-CD-56K	\$1999
G3/400 14.1" 64-6GB-DVD-56K	\$2399
G3/500 14.1" 64-6GB-DVD-56K	\$3349

VIDEO / DISPLAYS

Apple 17" Studio Display	\$479
Apple 15" Flat Panel	\$1229
Hitachi 17" / 19" .22 DPI 1600x1200	\$329 / \$489
KDS 17" / 19" .26 DPI 1600x1200	\$249 / \$359
MiroMotion DC30 + w/ Premiere 5.1	\$649
Sony 17" 210GS / 19" 420GS	\$329 / \$559
Sony 19" G400 / 21" 500PS	\$659 / \$1099
Viewsonic 17" .27 DPI 1280x1024	\$227
Viewsonic 17" .26 DPI / w/ USB	\$297 / \$329
Viewsonic 19" .26 DPI 1600x1200	\$389

POWERMACS

G4/350 64 MEG -10GB-DVD-56K	\$1349
G4/400 64 MEG -10GB-DVD-56K	\$1499
G4/450 128-20GB-DVD-ZIP-56K	\$2345
G4/500 256-27GB-DVD - ZIP	\$3295

SYSTEM BUNDLES

Check Our Web Site For More-Specials

G4/350 128 -10GB-DVD-56K	\$1529
Omega Zip & SCSI Card	
G4/400 128-10GB-DVD-56K Mdm	\$1965
Zip Drive & Microsoft Office 98	
G4/450 256 -20GB-DVD-Zip -56K	\$2949
17" .25 Display, SCSI Card, Epson Stylus 750	
G4/500 256-27GB-DVD - ZIP	\$4129
17" Studio Display, PhotoShop 5.5	

Contact Us For Unlisted Products

GUARANTEED LOW PRICES

On Over 10,000 New Mac Products

LIFETIME MEMORY WARRANTY

PC100 32 MB ... 64 MB	\$35 ... \$59
PC100 128 MB ... 256 MB	\$95 ... \$249
SO-DIMMS 64 MB ... 128 MB	\$59 ... \$95
SO-DIMMS 128 Low ... 256 MB	\$99 ... \$249
72 PIN SIMMS 32MB ... 64MB	\$49 ... \$89
168 PIN DIMMS 32MB ... 64MB	\$59 ... \$110
3.3 VOLT DIMMS 32 ... 64 MB	\$65 ... \$129
COMPACT FLASH 16 ... 32 MB	\$59 ... \$75
COMPACT FLASH 64 ... 128 MB	\$195 ... \$279
SMART MEDIA 64 ... 128 MB	\$195 ... \$279

Order Toll Free in the USA

1-800-600-2708

Ph: 818-904-1400 Fax 818-904-1410

197 on card or www.macworld.com/getinfo

SHREVE SYSTEMS

For all this and more
check out our website!

<http://www.shrevesystems.com>



WE BUY MACS & MAC STUFF (318) 424-9791

WE STOCK MAC PARTS!

1-800-227-3971

FAX (318) 424.9771 • Technical Support (318) 424.7587

Customer Service (318) 424.9791 • Purchasing/Information (318) 424.9791

1200 Marshall Street • Shreveport, Louisiana 71101

Newton 130

- ARM 610 RISC processor at 20 MHz
- Back-Lit LCD display
- FREE W/ PURCHASE
- Newton Fax Modem
- & Leather Newton Carry Case
- Lid not included without keyboard

\$129

PowerBook 5300cs

- Supports ext. video
- 24MB RAM
- 750 Hard Drive
- 100-MHz 603e
- Dual-scan color
- Refurbished



lomega 100MB SCSI Zip Drive

Refurbished



includes power supply
SCSI cable
lomega software

We also specialize in digital audio
recording!

Call for the best prices on **Alesis,**
Roland, Akai, and Mark of the Unicorn!



PRINTERS

Apple 11x17 Color Inkjet Printer NEW , #M9500	\$249.	G3 logic board, No Processor, No ROM	\$399.
Apple StyleWriter 1200, refurbished	\$149.	7200/90 logic board, refurbished	\$179.
Apple StyleWriter 1500, factory refurbished	\$129.	LC logic board, refurbished	\$49.
Apple Color StyleWriter 2400, refurbished	\$99.	LC II logic board, refurbished	\$129.
LaserWriter 11nt, refurbished w/ Toner	\$199.	Mac LCIII logic board, refurbished, exchange	\$149.
LaserWriter 11f w/5MB RAM, refurbished	\$549.	Performa 630, No Processor, refurbished	\$79.
LaserWriter 11g w/5MB RAM, refurbished	\$649.	8500 logic board, exchange	\$499.
Texas Instruments Micro Laser Pro E NEW	\$499.	9500 logic board, exchange	\$649.
		Quadra 950 logic board, refurbished	\$199.

Laser toner cartridges sold separately

**Free! Epson Document
Scanner**



with purchase of
any printer!

MACINTOSH LOGIC BOARDS

MONITOR BLOWOUT!

NUBUS ADAPTERS

AppleVision 850 Display, refurbished	\$699.	Quadra 660AV NuBus Adapter	\$79.
Apple 14" A/V NEW	\$149.	Quadra 610 NuBus Adapter	\$79.
Apple 14" Multiscan, refurbished	\$119.	lIsi NuBus adapter with math co-processor	\$69.
Apple 15" Multiscan, refurbished	\$129.		
Apple 15" AV, factory refurbished	\$199.		
Apple MultiScan 17", refurbished	\$179.		
Apple 20" Multiscan, refurbished	\$599.		
Voxon 14" Multiscan NEW	\$99.		
Voxon 15" Multiscan NEW	\$129.		
AppleVision 750, refurbished	\$299.		

VIDEO CARDS

ATI XClaim VR RAGE II 2MB with FREE TV Option	\$149.
E-Machines DoubleColor SX NuBus Card NEW	\$29.
RasterOps 24MX NEW , 24-bit NuBus	\$149.
Supermac 8.24 PDQ Plus, 24-bit NuBus card	\$449.
*PowerMac HPV Card (1MB)	\$79.
*PowerMac A/V Card (2MB)	\$199.

*Products are refurbished unless indicated as "new". Prices reflect a 2% cash discount and are subject to change without notice. Returns are subject to a 15% restocking fee. Not responsible for typographical errors. All trade-ins MUST BE in working condition. Refurbished systems may include like-new components and may also include cosmetic blemishes which do not functionally impair performance of the hardware.

• 800-673-MACS •

916-652-1880 FAX 916-652-1881 800-673-6227

iMAC 333Mhz

\$799

Refurbished

- 32 MB RAM
- 6.0 GB Hard
- ATI Rage Pro

SuperMac S900

G3 Upgradable

\$599

New/OEM

PPC 604e 233 Mhz 16/2 GB/CD/VID

- 6 PCI SLOTS
- Dual Processor Ready
- Keyboard & Mouse
- Serial & SCSI ports
- 8 DRAM Slots
- 16 bit CD Sound

SuperMac C600

16/1.1GB/CD

\$399

G3 Upgradable New/OEM

PPC 603e 240 Mhz

MacOS 8.1

\$29.99

MacOS 8.5

\$59.99

OEM / FULL INSTALL

24x BOOTABLE

Macintosh Ready!

Includes Driver Software

EXTERNAL CD-ROM

\$109.99

New

PowerMac 6100 8/230 (U)

Power PC 601

G3 Upgradable

Includes Ethernet

\$149

*CD Optional

PowerMac 7100 8/500 (U)

Power PC 601

G3 Upgradable

Includes Ethernet

\$199

*CD Optional

PPC 8500 16/1.2G/CD (U)

Power PC 604e

G3 Upgradable

Includes Ethernet

\$499

*CD Optional

Performa 550 Built-in Monitor Mouse (U) 299.99

Performa 5200 16/500/CD Mouse (U) 449.99

Performa 6360 16/1.2G/CD (U) 449.99

PM 7600/120 16/1.2G/CD Mouse (U) 449.99

UMAX C600 0/0/CD 603e Mouse (N) 299.99

UMAX S900 16/0/CD 604e Mouse (N) 449.99

UMAX S900 64/9GB/24xCD/EtherNet & 16MB SGRAM Voodoo Card (N) 999.99

UMAX PARTS

MotherBoards, Power Supplies
Floppy Drives and More

Apple Mouse I 22.99 Ext Keyboard (N) 29.99

Apple Mouse II 32.99 Gamepad-MacAlly 29.99

ADB Mouse 19.99 Trackball-MacAlly 29.99

ADB Mouse 2 button 24.99 PCI to USB 2 Ports 69.99

USB iKey Keyboard 39.99 USB iMouse (N) 29.99

USB iHub 4 port 49.99 USB iBall Trackball 39.99

USB to ADB 39.99 USB to Serial (N) 79.99

Laser Toner & Inkjet Cartridges

Top Quality Remanufactured

COMPLETE Reference ON-LINE

Apple®, Canon®, Epson® and Hewlett-Packard®

LW 8500 (R)

\$999

Workgroup Printer

Apple Twin Turbo

(OEM Packed)

\$69.99

8MB SG RAM, PCI Video Card

A blast of pure 128-bit graphics power!

GAME ROCKET

\$149.99

16MB SG RAM

PCI Video Card

3Dfx Voodoo Banshee Chip Set

for the fastest game play possible!

Apple 15AV

Refurb

\$149

Built in stereo speakers

Apple 17" Multiscan

Refurb

\$199

Trinitron Tube

Digital Controls

Apple 20" Multiscan

Refurb

\$399

Trinitron Tube

Digital Controls

All products are sold with a
90 Day PowerON warranty

PowerON

Computer Services

Mon-Fri 7-6, Sat 10-5^{PM}

4323 Anthony Ct. #1 Rocklin, CA. 95677

E-Mail: Sales@poweron.com

Gov't & School PO's Accepted

All brand or product names are registered trademarks of their respective holders and are respectfully acknowledged.

www.poweron.com

Check Out Our Complete Inventory Online



iMac's Starting @ \$699
233, 266 & 333 Mhz



PowerMac G3 All In One
466 Mhz 32/4/CD/ZIP/Floppy
Only \$1399

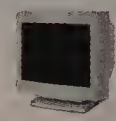
Hard To Find Beige
G3's in Stock!



New! ix3D PCI 8MB
Video Cards Only \$59

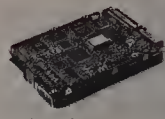


Parts For Every Mac
In Stock! Logic Boards,
Power Supplies &
More!



Sony SFF
20" Displays
Only \$399

2 Gig SCSI
Drives \$89!



**Dealers: Call For
Discounts!**

If you want to save money and avoid headaches,
give us a call or visit our website for a complete
listing of Mac systems, PowerBooks, Repair Parts
as well as peripherals and accessories.

www.MacResQ.com

Toll Free 888-447-3728

191 on card or www.macworld.com/getinfo



MAC GLOBAL

SYSTEMS AND PERIPHERALS • SALES AND SERVICE

4750 ALMADEN EXPRESSWAY STE # M • SAN JOSE, CA 95118

G3 233 DT \$1175	520 4/160 \$325
G3 266 DT \$1375	520c 12/240/19.2 \$450
6100 8/500 \$225	540 12/240 \$375
7200 8/500 \$325	540c 12/320/19.2 \$575
7500 16/500 Call	5300cs 8/500 \$575
8500 16/1G Call	1400c,cs 117/133/166 Call
9500 32/2G Call	3400c 180/200 \$1150/1050
	G3 233/250/266/300/333 Call
4Mb. 72-pin \$8	
8Mb. 72-pin \$15	New Apple 5300 NiMH \$29
16Mb. 72-pin \$30	
32Mb. 72-pin \$60	630/605/650/800/840/950
	6200 8/1G/CD \$299
StylWtr. II \$175	5200 8/500/CD \$499
StylWtr. 1200 \$155	6400/6500 Call
Laser 300 \$299	
Laser 320 \$449	13" RGB \$89
Laser 4/600 Call	14" Color \$149
	15" Appl. Mult. \$189
Mac OS 8.1 \$24.99	17" Appl. Mult. \$250
	20" Apple Mult. \$550

TOP DOLLAR Paid for Memory, Powerbooks, and CPU's

1-800-722-8864

PHONE: 408-265-6653

FAX: 408-265-6660

WWW.GLOBALDEALS.COM

178 on card or www.macworld.com/getinfo

Get a
**Free
Gift!**

Be one of the first

5

readers with
proof of purchase
from a Macworld
Shopper
advertiser from
this year &

get a cool gift!

Fax receipt &
contact info to
415•243•3592

CALL THE MAC EXPERTS!

Your one-stop source for everything Macintosh®—over 30,000 items on sale at better than mail order prices!
 "PowerMax—where we still believe a friendly, knowledgeable voice and good service mean something."

Huge Software Blowout! - Starting at \$5.00!!

US Atlas/Space Shuttle Bundle ...\$5.00	Word 98, Excel 98, PwrPoint...\$229.00
Mac OS 7.6 OEM on disks.....\$28.00	Adobe InDesign Comp. Upgr.....\$299.00
Mac OS 8.1 OEM CD.....\$28.00	Adobe Illustrator 8.0 CD\$288.00
Mac OS 9 Full Retail...\$59.00 or \$79.00	Adobe PhotoShop 5.5 CD\$488.00
Norton Antivirus 5.0 CD.....\$19.00	Toast 3.8 for Mac\$25.00
Norton Utilities 4.0 CD.....\$19.00	Toast 4.0 for Mac\$39.00
Panzer General Game.....\$5.00	Tomb Raider II\$45.00
Microsoft Office 4.2.1.....\$88.00	Digital Origin Edit DV\$519.00

Canon USB Color Printer **\$69!***
 An incredible price for a brand new color printer!
*After mfrs rebate

Hook up a digital camera to your new iMac DV!
Canon

Canon Ulura...\$888
 Canon Elura...\$1399
 Canon XL1.....Call!
 Sony Mavica...\$899
 All your DV needs!

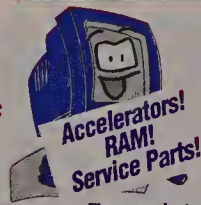


One of the great things about Macintosh® is how even old Macs still offer tremendous value. PowerMax offers a HUGE selection of Macs at super prices, complete with warranty and the excellent support of our Mac Experts. For the best in everything Mac, call PowerMax!

FREE PAPERPORT SCANNER WITH EVERY USED MAC!*

*This promotion is designed to call attention to our huge inventory of pre-owned Macs. Only while supplies last. Free scanner must be requested at the time of your order.

Every Type of Mac® Imaginable!



- Professionally bench-tested Macs with warranties at low, low pricing.
- New models available every day.
- We carry 'em all, but our used and refurbished Macs often offer better expansion, built-ins, upgradability and price/performance.

These are just a few of the pre-owned and refurbished Macs we have as of press time. See our web site for complete descriptions and the latest list.

Pre-owned Macs w/warranty	PowerBase 200 16/1.2/CD
6100/60 16/350/CD.....\$199	PowerCenter 132 48/1 Gb/CD.....\$499
7100/80 8/250/CD.....\$199	7500/100 32/1 Gb/CD.....\$519
7100/80 32/500/CD.....\$229	7600/132 32/1 Gb/CD.....\$599
7100/66 32/1 Gb/CD.....\$239	8500/180 64/1 Gb/CD.....\$729
8100/80 40/1.2 Gb/CD.....\$249	Beige G3's, Blue & White G3's & more!
8100/80 32/500/CD AV.....\$249	Factory Refurbished & New Discontinued
7200/120 8/1.2/CD.....\$309	iMac G3/233 32/4/24x CD rev B...\$649
All in One 5215 16/1 Gb/CD.....\$309	iMac G3/266 32/6/24x CD.....\$688
StarMax 3000/160 16/1.2/CD.....\$388	iMac G3/333 32/6/24x CD.....\$719
PowerCurve 120 16/1 Gb/CD.....\$388	iMac G3/400 Graphite 128/136...\$1349
StarMax 3000/200 32/3/CD.....\$429	81/Wh G3/300 64/6 Gb/CD/AV...\$1439
PowerBase 180 16/1.8/CD.....\$469	Beige G3/300 64/8/CD/AV.....\$1499

Why PowerMax is Special

- **We Do Not Use Voice Mail**—How many times have you tried to get a hold of a reseller or manufacturer, whether for sales or tech support, and found your contact buried behind an automated voice mail system? We don't use voice mail for anyone in the company—and never plan to.
- **Choices**—800 number, internet site, email, fax, even in person at one of our Northwest locations. Many internet resellers don't even publish an 800 number.
- **Selection and Price**—Over 30,000 separate software and hardware items at nationally competitive prices.
- **Personalities**—Only pleasant, intelligent people work for PowerMax. Sometimes we may be a little crazy, but we're great people to get to know if you're living in a Mac world.

POWER MAX

Knowledge is Power

Hard Drives, Displays & More!

Logitech Cordless Mouse	\$29
Gravis Firebird Deluxe ADB joystick	\$39
Altec Lansing Lansing iMac 3 pc. Speaker System.....	\$59
NEC CS500 15" Display with Harmon & Kardon Speakers	\$149
Internal LaCie 3 Gb SCSI drive- new (add \$49 for external case)	\$149
External LaCie 4 Gb 7200 RPM Seagate drive- factory refurbished	\$199
PowerMax 17" 720T Trinitron® Display w/5 year warranty.....	\$329
.25mm dp with max resolution of 1600x1280—the highest quality Trinitron® made!	



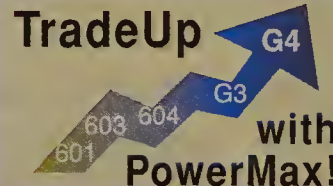
iMac™ iXtravaganza!

Ask us how we can have every model iMac ever made in stock at one time!

800-613-2072

Local: (503) 624-1827 • Fax (503) 624-1635
 email: sales@powermax.com

Prices subject to change without notice. Prices reflect cash discount. Credit card orders strictly verified against fraudulent use. With use of credit card as payment customer acknowledges that some products are subject to final sale. Many prices are limited to stock on hand. All brand or product names are registered trademarks of their respective holders.



We'll take your Mac OS computer in trade toward the purchase of new product. Call one of our expert Mac consultants for full details!

WWW.POWERMAX.COM

- The latest prices and close-out product lists
- Order on-line or call one of our expert consultants
- Experts at locating hard to find items or parts.
- Downloadable software on line! One click for hundreds of the latest award-winning titles!



Authorized Reseller

- Personal Financing • Fast P.O. Approvals
- Business Leasing • Extended Warranties



Graphite G4s DV iMacs™ iBooks™ PowerBooks® Blue & White G3's Beige G3's Software

APPLEMUGSTORE.COM

WHERE MAC FANATICS SHOP!



www.applemugstore.com

The MUG Store. A cooperative venture between Apple and PowerMax to bring MUG members exclusive deals on the latest Mac® products and special offers on discontinued and factory refurbished computers.

PowerMax is a division of Computer Stores NW, Corvallis, OR.

MacWorks 800-482-2705
Serving the Macintosh community since 1994

e-mail: sales@macworks.com
Voice 913.599.6227 • Fax 913.599.6111 • 9am-6pm Mon-Fri CST
Prices Subject to Change • Visa/MasterCard/AmEx
We ship FedEx • 15% minimum restocking fee on all returns

RocketFire™ FireWire/USB Upgrades

- Brand New
- 1-Year Warranty
- For Macs & PCs
- OHCI Compliant
- Use Apple Drivers



FireWire/USB PCI Card



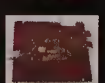
\$179⁹⁹

FireWire PC Card



\$149⁹⁹

FireWire PCI Card



\$139⁹⁹

6-Port FireWire Hub



\$249⁹⁹

PowerMac Bundles

G3/333 All-In-One **\$1399⁹⁹**
G3/333 iMac 5 colors **\$799⁹⁹**
7600/132 16/1.2GB/4x* **\$599⁹⁹**
6400/180 16/1.6GB/8x* **\$449⁹⁹**
7100/80 16/200/2x* **\$299⁹⁹**
*Add 17" monitor, kbld, mouse, modem for \$200
*Upgrade to a Sony 12x CD for FREE!
6100/66 8/160/13" RGB** **\$199⁹⁹**
**Add a Sony 12x CD for \$39.99

Sony 12x CD-ROM

• New, Internal SCSI
• MacOS-bootable

\$69⁹⁹

Panasonic 4x CD-ROM

• #CR-504-L
• New, Internal SCSI

\$29⁹⁹

128MB PC100 DIMM

• Brand New
• for G3/G4/new iMac

\$159⁹⁹

Apple/Motorola G3/333 ZIF Upgrade

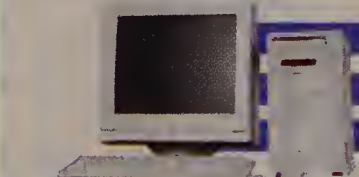
• Brand New, 2 Yr Warranty
• Upgrades G3 DT/MT
• Upgrades PCI PowerMacs with XLR8 CarrierZIF (get both G3/ZIF & CarrierZIF for \$309.98)
• \$20 trade-in for your old ZIF/604e

only \$179⁹⁹

www.macworks.com

201 on card or www.macworld.com/getinfo

your **complete**
used **Mac** resource



MAC
OF ALL
TRADES

macofalltrades.com

Mac of All Trades takes the
fear out of buying and selling
used equipment.

Refurbished and tested

Mac-savvy advisors

Best Prices

800.304.4639

Direct : 404.355.5144
Cust. Service : 404.355.5668
Fax : 404.355.5461
500 Bishop Street, Suite E.3
Atlanta, Georgia 30318

**Shop here for
new equipment!**



1-800-533-9005

We are open Mon-Sat, 9am-6pm

Fax Bids: (310) 475-7744 or email at SALES@COMPU-AMERICA.COM
10435 Santa Monica Blvd., Los Angeles, CA 90025

Check out our Web!
WWW.COMPU-AMERICA.COM

Government, University and
Fortune 1000 P.O.'s are welcome!
Business Leasing is Available!
International Orders Please call
tel: (310) 446-1771

POWERMACS!

Starting at
\$599



G4/500MT .. 256/27G/DVD/ZIP 3249
G4/450MT .. 256/27G/DVD/ZIP CALL
G4/450MT .. 128/20G/DVD/56K/ZIP .. 2349
G4/400MT .. 128/20G/DVD/56K/ZIP .. CALL
G4/400MT .. 64/10G/DVD/56K 1499
G4/350MT .. 64/10G/DVD/56K CALL
G3/400MT .. 128/12GIG/24XCD/ZIP .. 1499
G3/300MT .. 64/6GIG/24XCD/ZIP 1199
G3/300MT .. 64/6GIG/24XCD 1199
G3/400MT .. 128/9GW/24XCD/SCSI .. 1599
G3/350MT .. 64/6G/DVD CALL
G3/333MT .. 128/9GW/24X 1599*
G3/300MT .. 64/4GIG/24XCD 1499*
G3/266MT .. 128/4GW/24X 1499*
G3/266MT .. 32/6GIG/24X/ZIP 1399*
G3/266MT .. 32/4GIG/24XCD 1099*
G3/233MT .. 32/4GIG/24X/MODEM CALL
G3/300MT .. 32/4GIG/24XCD 1099*
9600/350 .. 64/4GIG/24XCD CALL
9600/300 .. 64/4GIG/24XCD CALL
1400/200 .. 32/2GIG/CO/DD5 CARO CALL

WORKGROUP SERVERS

G4/350 .. 128/20G/DVD/SHARE 2399
G3/450 .. 256/2-9G/24X/SHARE 2299
G3/350 .. 128/9G/24X/SHARE 1799
G3/300 .. 64/6G/24X/SHARE 1699

I-MACS

Starting at
\$899

I-MAC G3/400 128/13G/OVD/56K/VID E0IT 1449
I-MAC G3/400 64/10G/DVD/56K/CID E0IT 1249
I-MAC G3/350 64/6G/24XCD/56K 899*
I-MAC G3/333 32/6G/24XCD/56K 749*
I-MAC G3/233 32/4G/24XCD/56K 649*

POWERBOOKS

Starting at
\$599

3400C/240 .. 16/3G/CD/MDD 1199*
3400C/200 .. 16/2G/CO/MDD 1099*
3400C/180 .. 16/1G/CO/MDD 999*
2400C/180 .. 16/2G/CO 1199*
1400C/166 .. 16/2G/CD 1099*
1400C/166 .. 16/2G/CD 999*
1400C/133 .. 16/1G/CO 999*
1400C/133 .. 16/1G/CO 999*
5300CE/117 .. 16/1GIG/14.4MODEM 599*
5300CS/100 .. 8/500 499*

NEW G3 I-BOOK!

Starting at
\$1099



I-BOOK G3/300 32/3.2G/CO/12.1TFT/56K .. 1349
I-BOOK G3/300 64/6G/CO/12.1TFT/56K .. CALL
G3/500(NEW) 128/12G/OVD/14.1TFT/56K 3349
G3/400(NEW) 64/6G/OVD/14.1TFT/56K .. 2399
G3/266 .. 64/4G/20X/14.1TFT/56K CALL
G3/300 .. 64/8G/20X/14.1TFT/56K CALL
G3/300 .. 64/8G/DVD/14.1TFT/56K CALL
G3/333 .. 64/4G/24X/14.1TFT/56K .. 1999
G3/400 .. 64/6G/DVD/14.1TFT/56K CALL

SONY

Starting at
\$199



Sony E100/E200 199/349
Sony G200/G400/G500 399/649/1049
Sony E100/E200 CALL
Sony F-400/F-500 699/1699
Sony L-133/L-150/L-181 CALL
Sony PRESANTIDN W7000/W9000 CALL
Sony MAVICA FD73/F083/FD91 .. CALL/699/799

ViewSonic®

Starting at
\$134

M50/M70 199/299
Q51/Q55 15" 159/169
Q71/Q95 219/369
E771/E773/E790 229/279/379
G5771/G810 289/749
GF775/GS790 339/439
G771/G773 329/309
PT771/PT775 469/429
P5790/PF790 499/529
PF775/PT795 349/689
P810/PT813 829/899
P815/P817 859/1379
VIEWPANEL VPA145/VPD150 899/949
VIEWPANEL VP151/VP150 949/1029
VIEWPANEL VG150/VG180 CALL/2999
VIEWPANEL VPA181 CALL

RASTEROPS

Superscan CM-813/CM-812 1049/929
Superscan MC-8115 899
Superscan CM-753/CM-761 599/579
Superscan CM-643/CM-610 399/239
Superscan CM-751 479

EPSON®

Starting at
\$199



STYLUS COLOR 900/900G/900N 299/349/499
STYLUS COLOR 740/750/760 149/229/219
STYLUS COLOR Photo-1200 449
STYLUS ALL-IN-ONE 2000/2500 269/369
STYLUS COLOR 1520 449
STYLUS COLOR 3000/5000 1099/2329
LASER EPL-5700I 349
PERFECTION 1200U/1200S 229/279
4000N/4000TN/4050N 999/1099/1149
4050TN/2100M/2100TN 1289/659/799
5000/5000N/5000GN 1149/1694/2129

UMAX®

Starting at
\$99

VISTA Astra 2000U/2100U 149/129
VISTA Astra MX3 179
VISTA Astra 4000U 399
VISTA Astra 2400S 379
POWERLOOK III/TRANS 869/1149

Intuos

Starting at
\$99



INTUOS 4 X 5 (US8) 129
INTUOS 6 X 8 299
INTUOS 9 X 12 399
INTUOS 12 X 12 CALL

iomega

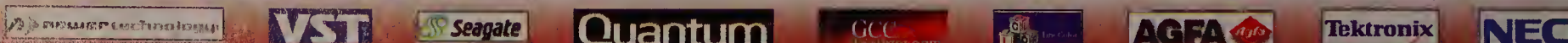
Starting at
\$79

ZIP DRIVE 250 MB EXT (SCSI) 149
ZIP DRIVE 100 MB INT (G-3) 99
ZIP DRIVE 100 MB EXT (US8) 119
JAZZ DRIVE 2 GIG EXT/INT 299/299
ZIP 100MB CART (10 PACK) 85
JAZZ CART 1 GIG 79
JAZZ CART 2 GIG 89

GLOBAL VILLAGE

Global Village Plat 56K EXT 99
Global Village PLAT 56K INTERNAL (G-3) 79
Global Village PLAT 56K EXT (USB) 119
Global Village 56.6 PCMCIA 139
DAYNA PCMCIA 56KMOD/10BT ETHERNET 149

YOUR #1 COMPUTER SUPERSTORE!



Apple, the Apple logo, Macintosh, and the Macintosh logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. All other names & logos are trademarks by their respective owners. We are Not Apple Authorized.



PowerMac 7600

132 MHz/16MB/1GB/CD

\$445

Apple

1710 Vision

\$145

PowerMac 4400

200MHz/16MB
2GB/CD

\$429

Apple 15"

Multiple Scan

\$99

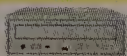
PowerMac 8500

150 MHz/16MB
2GB/CD

\$589

Apple CD-ROM

32xCD **\$79**



POWER BOOKS icni.com

G3 500 MHz/128MB/12GB/DVD	\$3479
G3 400 MHz/64MB/6GB/DVD	\$2479
G3 333 MHz/64MB/4GB/CD	\$2095
G3 266 MHz/64MB/CD*	\$1949
G3 233 MHz/32MB/2GB/CD*	\$1149
3400 240 MHz/16MB/3GB/CD*	\$1179
3400 200 MHz/16MB/2GB/CD*	\$999
5300ce 117 MHz/32MB/1GB*	\$590
520 20 MHz/160MB/Modem*	\$269
DUO 270c MHz/12MB/120/Modem*	\$179
PB 170 MHz/4MB/80	\$179



POWER MACS icni.com

G4 500 MHz/256MB/27GB/DVD	\$3479
G4 450 MHz/128MB/20GB/DVD	\$2479
G4 400 MHz/64MB/10GB/DVD	\$1569
G4 350 MHz/64MB/10GB/DVD	\$1499
G3 300 MHz/64MB/4GB/CD (scsi)	\$1289
G3 266 MHz/32MB/4GB/CD (scsi)	\$1049
9600 300 MHz/64MB/4GB/CD	\$1529
9600 200 MHz/32MB/4GB/CD	\$1049
9500 200 MHz/32MB/2GB/CD	\$949
9500 150 MHz/16MB/2GB/CD	\$689
8600 200 MHz/32MB/2GB/CD	\$829
8600 300 MHz/32MB/4GB/CD	\$989
7600 132 MHz/16MB/1GB/CD	\$445
7300 180 MHz/16MB/2GB/CD	\$585
7200 120 MHz/16MB/1GB/CD	\$295
7200 90 MHz/16MB/500/CD	\$189
4400 200 MHz/16MB/2GB/CD	\$429

Visit Our Website www.icni.com

MONITORS icni.com

APPLE 21" Studio	\$1099
APPLE 20" Multiple Scan	\$439
APPLE 1710 Vision	\$145
APPLE 17" Studio	\$329
APPLE 15" Studio LCD	\$899
APPLE 15" Studio Graphite	\$1149
APPLE 15" Multiple Scan	\$99
APPLE 14" Multiple Scan	\$79

MACTELL UPGRADE CARDS & FIREWIRE icni.com

G3 To G3 366 MHz	\$289
G3 To G3 400 MHz	\$329
G3 To G3 450 MHz	\$379
PCI To G3 366 MHz	\$289
FireWire Hard Drive 8GB	\$199
FireWire Hard Drive 13.5GB	\$249
FireDat Drive 13.5GB	\$559

ICN has the largest
inventory of Apple parts,
USB & FireWire Peripherals.

Please call for prices by
Ariston & VST

SCSI Hard Drive

1GB 3.5	\$79
2GB 3.5	\$109
4GB 3.5	\$169

PowerBook 3400c

200 MHz
16MB/ 2GB/ CD
\$999

MEMORY BLOWOUT

32MB-Dimm **\$45** 16MB-Dimm **\$20**



1.800.472.4921 Tel: 310-445-6600

Fax: (310) 445-6611 FAX TOLL FREE/JAPAN: 00-31-114211

11755 Exposition Blvd. Los Angeles CA 90064

Prices Subject to Change Without Notice • All Prices reflect 3% Cash Discount • * Refurbished
ICN Is Not An Authorized Apple Dealer • All Trademarks Are Property Of Their Respective Companies.

www.icni.com • 1.800.472.4921

**DIGITAL
PREPRESS
SYSTEMS**

Specializing in Rebuild Imagesetters

(714) 892-5290 Fax: (714) 892-4361

ALL MAKES & MODELS
Complete Prepress Systems

e-mail: prepress77@hotmail.com
P.O. BOX 4381, Huntington Beach, CA 92605

PLATEMAKING SYSTEM

Refurb-Digital Platemaking
Imagesetter, PS RIP
Processor, Densitometer,
Calibration Software
150 LPI. From **\$10,000**

SAPHIR SCANNERS

FACTORY REFURB:
1 yr. Wnty, Saphir,
Saphir Ultra, Ultra 2,
Hi-Res, Opal Lino-
color from **\$945**

HARLEQUIN RIP

Software, PS Level 3 MAC OS,
WIN 95, WIN NT Compatible for
most Imagesetters **\$4,995**

PROCESS COLOR SYSTEM

INCLUDES: G3-MAC,
Scanner, RIP,
Imagesetter, Proof
Printer, Processor &
Software **\$22,500**

SILKSCREENING

IMAGESETTER: Agfa
or Linotype 18" wide
Hi-Quality Film - Pos
Separations **\$15,000**

HOWTEK DRUM CANNER

D4000: 4000 dpi,
3.9 Dyn Range, 6 bit,
CYMK, RGB, Factory
Refurb, Desktop Size
\$9,950

SCITEX DOLEV

SCITEX DOLEV
Drum Imagesetter:
200 - 2Up **\$12,000**
400 - 4Up **\$18,000**
800 - 8Up **CALL**

HI-QUALITY/LOW COST DIGITAL PROOFING

EPSON 5000 with Harlequin RIP... **\$4800**
Faster and Better than the Fiery RIP.
Lower cost - Great add-on for current
Harlequin RIP users.

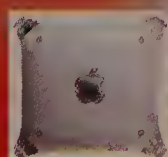
BEST OF THE REST

Macintosh G3, PC Pentiums, All
Prepress Software, File Servers,
Networking Hubs & Switches,
Color Proofing Printers & Match
Print Equipment

www.mac-pro.com
Buy • Sell • Upgrade • Repair • New • Used

**We have It All
In Stock!**

• IMac, G3, G4
• PowerBooks



Everything Mac!

Any Ad is a Mac Pro Ad

800-525-3888

sales@mac-pro.com Fax 408-369-1205

**CHEAP
MACS!**

LIQUIDATION STATION

www.liquidationstation.com

800-382-6246

227 on card or www.macworld.com/getInfo

MEGA MACS.COM

- TopGun USB Joystick \$29
- Norton Utilities 4/5 \$9/79
- G3/400 Zip Upgrade \$229
- 1GB/2GB SCSI Drives \$45/\$75
- Iomega Ext Zip w/Disk \$59
- LaserWriter Pro 630 \$349
- USB to SCSI adapter \$69
- PB 3400/5300 Battery \$29
- OS 8.1/8.5 (cd ONLY) \$29

We have over 100 Software Titles for \$9.00 ea.

918-664-MACS (6227)

fax: 918-663-6340 All Prices reflect 3% Cash Discount

think mac
LIQUIDATION
dealer destroyer
BLOWOUT SALE

for more information

CALL US TODAY TOLL FREE

877-638-2822



Where the price is right and the service is priceless
1035 Samsonite Blvd. Suite C • Murfreesboro, TN 37129
PH: 615-904-1070 FAX: 615-890-1070

MEMORY SPECIALISTS

- Printers
- Monitors
- Supplies
- Scanners
- Media
- Hard Drives
- Modems
- Software
- Accessories
- Cables/Adapters
- Mice/Input Devices
- Keyboards
- Network Products
- Hubs/NICS

Serving Mac User's Since 1991.
We sell only NEW, Grade A Full MFG Spec Ram

Low Prices & Personalized Service



Tahoe Peripherals

5301 Longley Lane, Suite A-2,
Reno, NV 89511 • Fax 775-823-2200
www.tahoeperipherals.com

800-307-3434

212 on card or www.macworld.com/getinfo

HELPING MAC USERS SINCE 1987



Authorized Dealer

MacBYTE

WE'LL BUY YOUR USED MAC!

Great Deals on Memory and Used Macs

www.computeraddict.com

800-432-2983

1024 Harding Ave., #203, Venice, CA
Fax: 310/448-4494

**WWW
ONERAM
COM**

You're the Winner!

In your hands is the only May issue of MacWorld magazine with this ad. Really, we wouldn't kid you about this. Honest!

OK, so we're lying.

The truth is everyone sees this ad, and everyone checks out our web site for the best selection of upgrades for the Mac. Everyone. So what are you waiting for?



Helping Older Macs Kick Butt.

205 on card or www.macworld.com/getinfo

**Macworld Get
info**

www.macworld.com/getinfo

**Got enough
memory?**

MEMORY

Weekly Web Deals
Check It Out!



Authorized Dealer

Apple Specialist

Authorized Service Provider

**ABSOLUTELY, POSITIVELY,
THE BEST PRICES!**

Plus, Lifetime Warranty on all RAM!

G4/YOSEMITE - PC 100	
32 mb	\$ 29
64 mb	48
128 mb	96
256 mb	223

233/266/333 iMAC™ RAM	
32 mb	\$ 30
64 mb	54
128 mb	112
256 mb	259

G3 SDRAM - In Stock!!	
32 mb	\$ 29
64 mb	48
128 mb	96
256 mb	223

PowerBook® G3 (98-99)	
32 mb	\$ 30
64 mb	54
128 mb	112
256 mb	259

168 Pin DIMMs	
16 mb	\$ 27
32 mb	45
64 mb	89
128 mb	156

SIMMs 72 & 30 pin	
4 mb 30 pin	\$ 7
16 mb 30 pin	19
16/32 mb 72 pin	25/37
64 mb 72 pin 6100/Sampler	83

*** At Press time the Memory market was extremely volatile. Please call for the most up-to-date prices.

CACHE • VRAM • PRINTER, DIGITAL CAMERA & PC-CLONE MEMORY AVAILABLE

Special Web Site Pricing available only at www.macsolutions.com

MacSolutions, Inc. Fax: (310) 966-4433
11933 Wilshire Blvd, West Los Angeles, CA 90025
University & School P.O.'s Welcome.

All prices are subject to change. Merchandise subject to prior sale. Please call for up-to-the-minute info and availability. Not responsible for typographic errors. Limited to stock on hand. Ad Code #214

Plus, Great Deals on Hard Drives, Software and more...

Seagate 4.5gb MedSCSI	\$179	Microsoft Office 4.2.1 CD only	\$ 75
IBM 9.1gb UltraStar SCSI	255	Mac®OS 9	79
Fujitsu 4.3gb IDE	95	Mac®OS 8.1 CD only	29
Qntm 17.3gb IDE	170	Mac®OS 8.6 Update w/free 8.5CD	69
Zip 100 10 Pak	89	PB Battery 190/53/35/3400 Bulk	35
Norton Utilities 4.0	29	IX Micro Ult Rez 8mb BulkPak	59

**WE BUY, SELL & TRADE MACS!
CALL 800-80-WE-BUY**

Super Deals on Pre-Owned Macs!

G3 Beige	233/32/4gb/24x	\$990
6400/180	16/1.6gb/8x	425
7500/100	8/500/CD	350
7200/120	16/1gb/4x	350
7200/75	16/1gb/4x	325
7100/66	8/230/2x	300
6100/66	8/230	200
Centris 610/20	8/80	60
PwrBook 1400cs/133	16/750/CD	875
PwrBook 1400cs/117	12/750/Floppy	695
PwrBook 5300cs/100	8/500	540

WE BUY USED MACS!

MAC Solutions

Secure Online Ordering or call 800-873-3RAM

www.macsolutions.com

Business Leasing
Available

Open Monday-Friday: 9am-8pm & Saturday: 10am-5pm CST

E-Mail Us at: owc@macsales.com

other World computing

Serving the Mac Universe Since 1988

**800-275-4576****FAST!
EASY!
SECURE!**www.macsales.com

Quality Products at Competitive Prices from a Friendly and Mac Knowledgeable Company!

Full Range of G3 and G4 Processors in Stock! G3/450mhz ONLY \$269!**SONNET Crescendo Nubus Series from \$239**

Upgrades For PowerMac 6100/7100/8100/8150/9150/ Radius; Performa 611X Series

G3/240-266mhz 512k - \$239	SONNET
G3/240-266mhz 1mb - \$295	SIMPLY FAST
G3/300mhz 1mb - \$339	
G3/400mhz 1024k - \$485	

New G4 Upgrades Now Available!**DaughterCard
Gives Your PCI Mac
ZIF G3/G4 Upgradeability!**Call or Visit www.fastermacs.com for our complete line of G3 and G4 Processors!**SONNET Crescendo PCI Series from \$198**Upgrades for PowerMac 7300/7500/7600/8500/8600/9500/9600s;
WGS 7350/8550/8650/9650; PowerCenter/Wave/Tower; UMax S900/J700

G3/266mhz 512k - \$198	G3/300mhz 512k - \$239
G3/300mhz 1024k - \$295	G3/400mhz 1024k - \$389
	G3/500mhz 1024k - \$675
SONNET	
SIMPLY FAST	
G4/350mhz Altivec 1024k NEW! \$549	
G4/400mhz Altivec 1024k NEW! \$729	

Interex XLR8 ZIF Carrier PCI DaughterCards

XLR8 ZIF Carrier w/o Processor	\$135
ZIF Carrier w/OWC Mercury G3 333mhz 1mb	\$309
ZIF Carrier w/OWC Mercury G3 400-450mhz 1mb	\$389
ZIF Carrier w/OWC Mercury G3 500mhz 1mb	\$685
ZIF Carrier w/G4 Processor	\$CALL

SONNET Banker G3 Series from \$198G3 Upgrades for PowerMac 4400/5500/ 6360/6400/6500/ 20th Anniversary Mac;
PowerBase; Umax C500/600 StarMax 3000/ 4000/5000 Series; Most Motorola Clones

G3/250mhz 512k - \$198	G3/300mhz 512k - \$239
G3/300mhz 1024k - \$295	G3/400mhz 1024k - \$475
	G3/500mhz 1024k - \$675

Z.I.F.**Call for G3 and G4
ZIF Upgrades
for all G3 Beige and
G3 Blue/White PowerMacs!
500mhz currently in stock and available!****450mhz Only \$269!**www.fastermacs.com

- More Stuff to Make your Mac a FasterMac!
- Upgrades for Older Macs too!

www.macsales.com

- More Mac products and information
- Free Ground Delivery and
- \$5 FedEx Delivery when you place your order online!

Visit us for USB, Monitors, Printers, USED Deals & More....

Mac Memory**G3/G4/iMac 350 & 400mhz SDRAMs**Apple Spec PC100 Memory for ALL Beige G3
Desktops, Minitowers, All-In Ones, & New
B&W G3 and G4 Computers (work with PC's too)

32mb - \$39	64mb - \$54	128mb - \$105
256mb(66mhz for Beige) \$265		
256mb(100mhz for G3BW & G4) \$265		

**iBook/iMac / PowerBook
Wallstreet/Lombard/New 500mhz too!**

32mb - \$49
64mb - \$68
128mb - \$139
256mb - \$269*
*not for iBook

168 Pin MacDimms	5V	5V Edo
32mb	\$65	\$79
64mb	\$129	\$129
128mb	\$165	\$165

72 Pin Simms		
16mb \$35	32mb Simm \$49	64mb* \$139

*for 6171/8100 and compatibles only.

Call or visit www.macsales.com for other memory & video/vram upgrades.OWC is a Techworks Authorized Reseller. Call or Visit our website
at www.macsales.com for the best prices on Techworks Brand Memory.Prices, Specifications, and Availability subject to change without notice. Items returned complete in
original returned within 30 days may be subject to up to a 15% restocking fee. No return will be
accepted without Return Merchandise Authorization Number.* See www.macsales.com for Free Delivery details

WD0400

**Seagate
Barracuda 2.1gb**

7200rpm 8ms 1yr Warranty

SAVE @OWC \$75 int. \$145 ext.FWB 3.0 Hard Drive ToolKit included with drive for \$10 additional.
Call or Visit www.macsales.com for a great
selection of 270mb - 4.5gb SCSI Drives!**SCSI Hard Drives**

	int.	ext.
Hitachi		
9.1gb 7200rpm Low Profile 8.5ms 5yr Warranty	\$169	\$239
Quantum		
9.1gb Atlas III 7200rpm 1024k LP 7.8ms 5yr.	\$239	\$309
18.2gb Atlas III 7200rpm 1024k 7.8ms 5yr.	\$329	\$399
Seagate		
9.1gb Barracuda 18LP 7200rpm 7.1ms 1024k 5yr.	\$269	\$339
18.2gb Barracuda 18LP 7200rpm 7.1ms 1024k 5yr	\$369	\$439
IBM		
9.1gb UltraStar 18ES 7200rpm 7.0ms 2048k LP 5yr.	\$249	\$299
18.2gb UltraStar 18ES 7200rpm 7.0ms 2048k 5yr.	\$385	\$455

Visit www.macsales.com for a full selection of UltraWide
and Ultra2 drives up to 50gb in a single device!**IDE Hard Drives****SAVE BIG! 6.4gb Western Digital Only: \$99**

IBM	Seagate	Quantum
15.2 - \$149	6.4gb - \$109	6.4gb - \$109
25.2 - \$225	13.0gb - \$139	13.0gb - \$129
37.5 - \$335	27.2gb - \$229	20.5gb - \$209

Call or visit www.macsales.com for our full line!**IDE PowerBook Drives**for PowerBook 150; 190/1400/5300/3400;
G3 PowerBooks; Duo 2300 and 2400 Series.

6.49gb Hitachi 4200RPM 512k 9.5mm SuperSlim 2Yr.	\$189
10.1gb IBM TravelStor 4200RPM 12mm Slim 2Yr.	\$289
12.1gb Toshiba 4200RPM 9.5mm SuperSlim 2Yr.	\$299
18.0gb Toshiba 4200RPM 12mm Slim 2Yr.	\$429
18.0gb IBM TravelStor 4200RPM 12mm Slim 2Yr.	\$499
25.0gb IBM TravelStor 4900RPM 17mm nonSlim 2Yr.	\$649

VIDEO CARD SPECIAL

ixMicro
Ultimate
Rez 128
PCI
With 8mb of V-Ram
NEW WITH 5 YEAR WARRANTY

\$75

SAVE @OWC

**CDR CENTER
Burn Your Own
CDs with Ease!****Yamaha CDRW**8x Recordable / 8x ReWriteable /
24x Read ONLY **\$239**
10pk of CDR Media included with each CDR Drive!

add \$29 for Toast CD Mastering Software

add \$70 for External w/All Cables

CDR / CDRW MediaCDR Media 74 Minute
50 pack with jewel cases **\$39**CDRW Media 74 Minute
10 pack with jewel cases **\$29⁹⁹****other World computing**

224 West Judd St., Woodstock, IL 60098 Int.: (815) 338-8685 Fax: (815) 338-4332

MEMORY MADNESS

The LLB Company, Inc.
 1-800-848-8967

DIMMs

\$120 128MB

BEIGE G3- PC 66

16MB 4x64.....\$45

32MB 8x64.....\$61

128MB 16x64.....\$120

256MB 32x64.....\$299

\$149 64MB

168 PIN EDO 3.3VOLT

16MB 2x64.....\$49

32MB 4x64.....\$75

64MB 8x64.....\$149

\$130 64MB

168 PIN EDO 5 VOLT

16MB 2x64x.....\$45

32MB 4x64.....\$65

64MB 8x64.....\$130

DIMMs

\$59 64MB

G4/BLUE/WHITE G3- PC100

64MB 8x64.....\$59

128MB 16x64.....\$1117

2546MB 32x64.....\$299

\$63 32MB

168 PIN FAST PAGE DIMMS

32MB 4x64.....\$63

64MB 8x64.....\$130

128MB 16x64.....\$350

SIMMs

\$63 32MB

72 PIN FAST PAGE SIMMS

8MB 2x32.....\$22

16MB 4x32.....\$32

32MB 8x32.....\$63

FROM THE LLB COMPANY

IOMEGA

Zip Drive	\$119
Zip Drive USB	\$151
ZIP 100 disk	\$10
ZIP 100 disks -3-pk	\$28
ZIP 100 disks -10-pk	\$89
Jaz 1GB disk	\$89
Jaz 1GB disks - 5-pk	\$405
Jaz 1GB disks - 20-pk	\$1524

NEWER TECHNOLOGY

For the PowerMac 6100 Series

Maxpowr G3 210MHz/512K Cache \$250

Maxpowr G3 240MHz/1MB Cache \$299

NEW For the PowerMac 7500/8500/ Etc.

Maxpowr G3 400MHz/1MB Cache \$449

Maxpowr G3 500MHz/1MB Cache \$749

NEW For the PowerMac G3 Series

Maxpowr G3 400MHz/1MB Cache \$449

Maxpowr G3 500MHz/1MB Cache \$749

Powerbook

WALL ST./ iMAC

128MB	\$145
64MB	\$64
32MB	\$40
16MB	\$35

iBOOK

256MB	\$299
128MB	\$145
64MB	\$64
32MB	\$40

PB 500 SERIES

32MB	\$111
16MB	\$62
8MB	\$45
4MB	\$40

PB3400 G3

128MB	\$208
64MB	\$125
32MB	\$75
16MB	\$60

PB 3400 SERIES

128MB	\$208
96MB	\$170
64MB	\$120
32MB	\$68

PB 5300 SERIES

48MB	\$150
32MB	\$120
16MB	\$60
8MB	\$55

PB1400 SERIES

48MB Kit	\$180
24MB	\$90
16MB	\$59
8MB	\$52

PB 2400 SERIES

64MB	\$135
32MB	\$95
24MB	\$80
16MB	\$75

www.llb.com International:425.881.1880 Fax:425.881.1930

209 on card or www.macworld.com/getInfo

MEMORY

The Best Memory Prices & Guarantee

800-662-7466

Secure online ordering:www.datamem.com

Lifetime Memory Replacement Guarantee

DMS will meet or beat anyone's price!



MEMORY UPGRADES FOR

Computers • Printers

Notebooks • Digital Cameras

EPSON

LACIE

UMAX

16-bit Color Card with Ethernet for PowerBook 5300 Series

\$29.00!

Pentium® Computer System Specials

USB Scanners/Printers & Accessories



DMS ACCEPTS GOVERNMENT, EDUCATIONAL & CORPORATE P.O.s WITH PRIOR APPROVAL

FAX P.O.s 24 HOURS TO DMS @ 603.898.6585

Open M-F 9a.m. 'til 9p.m. e.s.t.

213 on card or www.macworld.com/getInfo

WHY IS THE COMPETITION SHAKING?

BECAUSE

1-800-4-MEMORY

IS HERE

WE CAN BEAT

ANY QUOTED PRICE ON ANY MEMORY FOR ANY COMPUTER

(NOTEBOOK, DESKTOP, PRINTERS) ANYWHERE... PERIOD!

- LIFETIME WARRANTY
- FREE TECH SUPPORT
- NO CREDIT CARD SURCHARGE
- MOST ORDERS SHIPPED SAME DAY

CALL AROUND THEN CALL US

CHECK OUR WEB SITE FOR SPECIALS
 WWW.18004MEMORY.COM

Data Recovery in hours.

- Over 10 years of experience with clients worldwide including Apple, NASA, HP, and FedEx.
- We've recovered more than half-a-million megabytes of Mac Data alone.
- You only pay when there's a recovery.
- Express One-Day Service is available.
- Call 24 hours a day.

415-495-5556 • FAX 415-495-5553 • RESTRICTIONS MAY APPLY
381 Clementina Street • San Francisco, California 94103



Working at the speed of business.

800-341-DATA

217 on card or www.macworld.com/getinfo

MAC REPAIR & UPGRADE

24 HOUR SERVICE TURNAROUND • LONGER WARRANTY
FREE DIAGNOSTIC • COMPETITIVE PRICE



- * Specialize in component repairs:
• Power Mac • Power Book • Logic boards
- * Advance Exchanges

**DT & T
MACINTOSH
SERVICES, INC.**

800-622-7977

720 East Evelyn Ave., Sunnyvale, CA 94086 • Tel: 408-720-9899 • Fax: 408-720-9459
<http://www.dttservice.com>

215 on card or www.macworld.com/getinfo

completely ARE YOU COMPUTER LITERATE?

- DO YOU KNOW HOW TO PROTECT YOUR COMPUTER FROM:**
- Accidental Damage
 - Fire
 - Other
 - Theft
 - Vandalism
 - Natural
 - Power Surges
 - Flood
 - Disasters

SAFWARE, THE INSURANCE AGENCY, INC., offers a comprehensive insurance plan to protect your valuable computer equipment. Our products cover your hardware, media and purchased software.

Pays for the cost of repair or replacement. No deduction for depreciation. 30-day trial period. Act now!

For cost and other details of coverage, including limitations and exclusions: Call 1-800-800-1492

Safeware[®]

The Insurance Agency, Inc.

Safeware, The Insurance Agency, Inc.

P.O. Box 26296, Columbus, OH 43226-0296 (614) 761-1492 • Toll-free: 1-800-800-1492
www.safeware.com • E-Mail: safeware@safeware.com

UT9294A-0100
ahbr

190 on card or www.macworld.com/getinfo

Digital Imaging

- Slides & Negatives \$3.75
- 4x5 Transparencies/Negs \$30
- Large Posters & Displays \$45
- Scanning: Hi & Lo Res
- Kodak Photo-CD Scans
- Short Run Color Printing

Show & Tell 39 W 38th St., NY, NY 10018

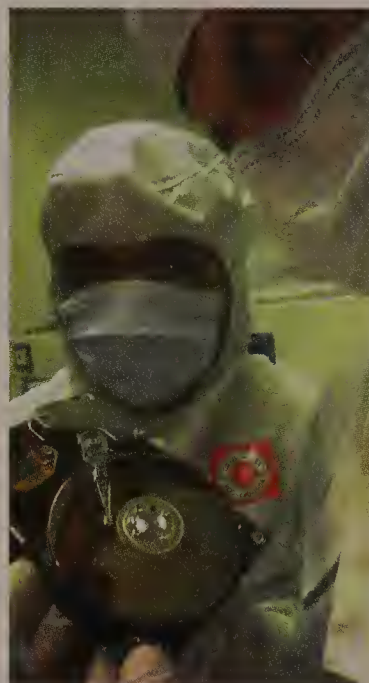
www.show-tell.net

212 840-2912 212-840-7953 (fax)
showtel@ibm.net • shotel@aol.com

219 on card or www.macworld.com/getinfo

DATA RECOVERY: 800-440-1904

7 good reasons to choose DriveSavers:



"We Can Save It!"

1. DriveSavers is the Authorized to pre-form Data Recovery Service on all Apple computers and hard drives.
2. Recommended and certified by all drive companies to open the drive and still maintain the warranty.
3. Retrieve recovered data instantly with DATAEXPRESS[™] over secured Internet lines.
4. 24-hour, onsite, and weekend service available.
5. Advanced, proprietary recovery techniques.
6. Featured on CNN, BBC, Discovery Channel. Also in Forbes, MacWorld, Mac Addict, Popular Mechanics, and many others.
7. Federal and State Contracts (GSA, CMAS.)



Since 1985
INTL: 415-382-2000

www.drivesavers.com

211 on card or www.macworld.com/getinfo

Implosion Publishing

1000	4x6	Full-color Postcards	\$125
1000	8.5x11	4/0 100# Gloss Text	\$275
1000	11x17	4 page Brochures 4/4	\$795
1000	18x24	Posters 4/0	\$795

All prices include film.
Call for more specials!

1921 East Colonial Drive • Orlando, Florida 32803

407.898.5573 • fax: 407.898.7565

toll free: 888-323-5431

216 on card or www.macworld.com/getinfo

BIG POSTERS & HUGE DISCOUNTS

FROM YOUR COMPUTER FILES

HIGHEST QUALITY PRINTS AT THE BEST VALUE AROUND • STATE OF THE ART EQUIPMENT • UP TO 800dpi

24" x 36"	36" x 48"	48" x 72"
Full color print on 7 mil high or low gloss paper	Full color print on 7 mil high or low gloss paper	Full color print on 7 mil high or low gloss paper
\$25	\$50	\$125
NO MINIMUMS VOLUME DISCOUNTS	NO MINIMUMS VOLUME DISCOUNTS	NO MINIMUMS VOLUME DISCOUNTS

FOR MORE INFO & PRICING VISIT OUR WEBSITE

www.BIGPOSTERS.com

CREATIVE JUICES PRINTING & GRAPHICS INC.

(In New York) Tel: 516-520-4533 Fax: 516-520-4534 • 24 Wolcott Rd., Levittown, NY 11756

1-888-880-HUGE

220 on card or www.macworld.com/getinfo

DELUXE COLOR PRINTING!

Our ultra thick, deluxe high gloss cards stand out from the rest!

**FREE SAMPLES
Call Now!**



1000
POSTCARDS
\$145

1000
BIZCARDS
\$60!

postcard press[®]
Creating memories by
instantly preserving

- Super thick card • Ready in 5-7 days!
- Glossy UV coating • NO Film Charge!

1-800-957-5787

www.postcardpress.com

Preferred by over 5,000 professionals!

Look here for
all your
Macintosh
service needs!

ALSO IN CALIFORNIA

DATA RECOVERY

For **MAC** - (Hard Drives, Opticals, Removables)

By Nick Majors' DATA RECOVERY LABS
"The Best Data Recovery Service available
- Anywhere - at any Price!"

Dedicated in-house MAC specialists are available to work on your emergency data recovery. Complete facility with clean rooms and full MAC capabilities.

Free evaluations. All recoveries are 100% satisfaction guaranteed. Complicated / top priority projects are our specialty.

1-800-563-1167
www.datarec.com

USA • Canada • Japan

Datarec.com
DATA RECOVERY LABS

**LOOK HERE FOR ALL
YOUR MACINTOSH
SERVICE NEEDS!**

G3/iMac Parts In Stock!

800-WE-FIX-MACS

Free Diagnostics • Best Prices • Best Warranties • Huge Inventory

Logic Boards: 6400, 6500, 7500, 8500, 8600, 9500, 9600 From \$250	G3/466 All-In-One 32/4gb/24xCD/Zip \$1299 6100 from \$99 7100's from \$149	G3 450Mhz Zif CPU \$249 Apple 4gb Scsi HD \$179 Apple 2gb Scsi HD \$109 Apple 24x CD Rom \$99
---	--	--

iMac G3 Logic Board
From \$299

PowerComputing Specialists

2202 N. First Street San Jose, CA 95131 • 800 933-4962 • www.allimac.com

Repair • Upgrade • Buy • Sell • Trade New • Used • Refurbished

data

recovery

www.data-master.com

When you absolutely, positively have to get your data back... Be assured MicroCom will guide you through the recovery process... Diagnostic reports back to you within hours, with step-by-step updates on every recovery situation. Call now for an immediate consultation.

MICROCOM
20802 Plummer St. Chatsworth, CA 91311 • 818 718-1200
800 469-2549

CD-ROM PRODUCTION

1000 Retail-Ready Stamped CDs
Includes two color discs, four color glossy insert & tray cards, jewel case, and poly wrap. Complete turnkey — just send a CD-R and art files! Call for details.

CATALOGIC
Your CD-ROM Production Source™
<http://www.catalogic.com>

990 Richard Ave Ste 103 • Santa Clara, CA 95050
Telephone: 408-486-0800 Fax: 408-486-0809

Business Card CDs!
New! 18Mb of data or audio on a business card shaped disc. It really plays! See our web site for details.

We Also Offer:

- CD-R silk-screening service
- Short run CD-R duplication
- Standalone CD-R dupers

Call today: (800) 255-4020

SO YOUR HARD DRIVE SPLIT AND TOOK ALL THE DATA WITH IT?

PROFESSIONAL DATA RECOVERY SERVICES.

HARD DRIVES, FLOPPY DRIVES, SYQUEST, IOMEGA, ORB AND OPTICAL.
SAME-DAY SERVICE AVAILABLE. REASONABLE RATES.
VIRTUALLY ALL OPERATING SYSTEMS. GUARANTEED RESULTS*.

800-743-0594
online quotes <http://www.totalrecall.com>

2462 WAYNOKA ROAD COLO SPRINGS, CO 80915 • 719-380-1616 • FAX 719-380-7022

TOTAL RECALL EXTREME

© 1999 TOTAL RECALL, INC. *CALL FOR DETAILS

Dear John,
I know
they have

CLASSIFIEDS

Apple news, discounts & industry news sent daily. Subscribe to eMacDaily for free. www.macdirectory.com/pages/newsdaily.html

Put your business online **INSTANTLY!** E-commerce, Business, Personal hosting. Resellers welcome. www.domainbuilder.net

ONLINE BIBLE – CHURCH SOFTWARE – Y2K, OS9 OK
BY THE BOOK www.bythebook.com +1(800) 554 9116

ROYALTY FREE MUSIC – MP3, Download Online, Lifetime Use, Buy Out, FREE Music. www.iamusic.com

Care4th[®] – Electronic Medical Records, just for Mac.
None better! www.med4th.com +1(608) 231 1936.

www.excelsoftware.com – System analysis, requirements specification, software design, code generation & reengineering tools

MacTreasures - Macintosh software not found on retail shelves.
URL: www.mactreasures.com +1(408) 227 1645.

Electronic Art for Design Professionals-Download free samples:
www.ultimatesymbol.com 44-pg catalog call: +1(800) 611 4761

Strategies by Joel Wapnick, 1999 World Scrabble[®] Champion.
Be a killer player. <http://www.angelfire.com/biz3/archive>

PowerBookCentral.com - Shop here first. Prices, deals, news, classifieds, buyer's guide, more. www.powerbookcentral.com

Macintosh Web Hosting! Manage your site just like an iDisk!
Plans start @ \$100/year w/ 50MB of space. www.macserve.net

TERMINAL EMULATION - Wyse 50/60/370, Viewpoint, VT100
Carnation Software +1(425) 333 4288 www.carnation-software.com

exeGes Bible Software Mac/Win. The only Literal Translations
& Transliterations – ever: + 2 Bonuses, + \$30 in Discount Coupons.
All for \$9.95 + S/H. **CALL +1 (800) 9 BIBLE 9.**

WWW.JRTVIRGINIA.COM
Where America Shops For Furniture!

POWERBOOK GUY - the premier source for quality PowerBooks,
parts and accessories! www.powerbookguy.com +1(510) 533 5500

MOUSE PADS – Custom Printed, Manufacturer Direct. Great Desk
Advertising! MicroStore Inc. www.microstore-mousepads.com

www.maccentral.com –
Giving you the tools you need to get more from your Mac.

Place an ad in our classified section

Reach over 1 MILLION readers* by advertising in the most
widely-circulated Macintosh magazine in the market! To
advertise please contact Alissa Mach at 800-597-1594
extension 3, 415-243-3628, or email her at
alissa_mach@macworld.com.

*Source: Intelliquist CIMS v6.0

WHOLESALE WATERLESS COLOR PRINTING FROM YOUR COMPUTER FILES

1000 FULL COLOR BUSINESS CARDS FOR \$100 Sug. retail price \$179
1000 FULL COLOR POSTCARDS FOR \$149 Sug. retail price \$249

Printed waterless at 300 line screen from your
computer files on Super Premium 10pt. Kromekote
with our FREE scratch-resistant aqueous coating.



Try Our
Fast 4/C Print
Quotes!

- BUSINESS CARDS
- POSTCARDS
- CD INSERTS
- CD TRAY LINERS
- BROCHURES
- BOOKLETS
- NEWSLETTERS
- POSTERS & MORE

Stephen F. Sampaulesi
Chairman-CEO

NATIONAL
MORTGAGELINK

Service and Results Make the Difference
3934 FM 1960 West Office (281) 444-6363
Suite 100 Home (281) 356-1266
Houston, TX 77068 Mobile (713) 557-3379



FEATURING 300 LINE SCREEN WATERLESS OFFSET PRINTING

Rates for Brochures, Booklets and Flat Sheets are also available.

4-COLOR
WATERLESS
SPECIAL

STARTER PACKAGE

1000 each of our 4-Color Letterhead, Envelopes
& Business Cards printed from your computer files.
Letterhead & Envelopes printed on Hammermill
Lustre, BCs printed on 10 pt. Komekote.
All for only \$849 plus shipping.

\$849
SUGGESTED
RETAIL \$1,377



GRAPHIC ARTS
AVAILABLE



4413 82nd Street • Lubbock, TX 79424 • FAX: 806.798.8190

QUARK
Authorized
Service Bureau

Factory Authorized
COREL
Service Bureau

Se Habla
Español

Email your requests for printing quotes to request@copycraft.com

1.800.794.5594

CALL TODAY FOR A **FREE** COPY OF OUR **NEW** 32-PAGE FULL COLOR CATALOG

Visit www.copycraft.com for more Specials...in English or Spanish!

The Desktop Critic

by David Pogue

Secrets of the Software License Agreement

HAVE YOU EVER ACTUALLY READ ONE OF THESE THINGS? I DIDN'T THINK SO.

EVERY TIME YOU TRY to install a piece of software or download something from the Internet, you click past a screen of legalese known as the *software license agreement*. You can't get past it without clicking on one of two buttons: Accept or Decline. Nobody actually reads this document, of course. At this point, you blindly click on Accept. After paying \$300 or \$800 for a piece of software, you just want to get the thing installed.

So I had something of a shock when, seized by a rare wave of boredom, I actually sat down to read one of these things in its entirety. Here's what it said:

"SOFTWARE LICENSE AGREEMENT. We, Microsoft Corporation ("God"), grant you ("powerless supplicant") a nonexclusive license to use the accompanying software a (\$300 program on a 50-cent CD—with no printed manual, by the way). You are not permitted to lease, rent, distribute, sublicense, disassemble, reverse-engineer, forward-engineer, sideways-engineer, or dislike the software. In fact, we'd sort of appreciate it if you wouldn't say bad things about the software in public.

"This agreement gives you the right to install one (1) copy of the software on one (1) computer within thirty (30) days of reading this agreement, not because we care how many times you install it, but because we think our customers are idiots who can't understand numbers unless we write them out two (2) times.

"You agree that our installer may spray your System Folder with dozens of extensions, shared libraries, control panels, preference files, fonts, and other crud, without asking first or providing a list of why we put what where. If your computer is unstable as a result, you agree not to investigate allegations that we've entered into a secret conspirator-

ial cross-promotional relationship with Symantec Corporation, maker of Norton Utilities.

"This software is warranted to become obsolete after six (6) months, at which time the Software Company will offer an upgrade for a reasonable (exorbitant) fee. Such upgrades may also be required when Apple Computer releases a new operating-system version, alters the terms of its developer program, or sneezes. At our sole discretion, we may, in these subsequent upgrades, add RAM-hogging features nobody asked for, change keystroke sequences it's



taken you three years to learn, or arbitrarily remove features you've grown to love. You agree to enter this lifelong treadmill of upgrades willingly and happily and not to stumble onto the fact that AppleWorks does most of what our stuff does but at twice the speed, half the cost, and 1/300th the RAM.

"Under no circumstances shall we be liable for any incidental, consequential, or future damages arising from the use of this product. In other words, if your kids whip the CD around like a Frisbee or use it as a body-piercing ornament, that's really not our problem.

"This license agreement is effective

until terminated—a lot like you, actually. You may terminate the agreement at any time by destroying the software, documents you've created with it, and computers you've run the software on.

"You understand that I'm just an overpaid lawyer, one of 50,000 Silicon Valley legal drones toiling in climate-controlled offices somewhere, and that it doesn't really matter whether or not you accept this agreement. I've got no way of knowing if you're being a good little camper; in the history of software, nobody's ever been prosecuted for installing two (2) or even three (3) copies

of this program. In fact, in the history of software, I doubt anyone's even read one of these License Agreements all the way through. I'd be quite surprised, in fact, if you're still reading this one. Nobody ever scrolls down this far. You probably clicked on Accept a long time ago and are now confronting a screen full of tool bars with inscrutable icons and no labels.

"I never wanted to be a lawyer, you know. My parents pressured me into it. I wanted to be—a lumberjack!

No, wait—a novelist. Yeah, that's it! And this is the perfect publication—100 million copies of this document get distributed every year. Let's see here:

"Heart pounding, Sparrow brushed her long blond hair out of her eyes. The .45 made a cold, hard companion pressed against the white satin of her nightgown. As the bombs began to fall on the city, she clutched the ledge of the skyscraper. 'Don't look down,' she thought. . . ." **m**

DAVID POGUE created the *Missing Manual* series (www.missingmanual.com), whose first titles will include *Mac OS 9*, *Mac OS X*, *AppleWorks 6*, and *iMovie*.

**"With XANTÉ,
it's head 'em
up, move
'em out!"**



Jonathan Deely; Prime Time, Inc.; San Antonio, TX

"We knew XANTÉ was a high-resolution graphics printer, so we bought our first Accel-a-Writer 3G primarily to please our designers. But then the rest of the staff discovered it, and it became the workhorse of our whole operation. Today, our Accel-a-Writer 3G turns out everything — including camera ready output and registered color separations."

Accel-a-Writer 3G



Adobe PostScript 3

The XANTÉ® Accel-a-Writer® 3G • Highest resolution of any printer in its class — up to 2400 x 2400 dpi • Superior halftones with line screens up to 150 lpi • Precision output with XANTÉ's exclusive Graphic Software Package • Greater flexibility with oversized output up to 13" x 35.5" • Fast processing and up to 20 PPM • The perfect solution for final output, camera ready art, proofing or computer-to-film printing

 **XANTÉ**
Innovative Prepress Solutions

1-800-926-8839, ext. 2164 • Fax: 334-473-6503 • www.xante.com/mw2

© 2000 XANTÉ CORPORATION. XANTÉ and Accel-a-Writer are registered trademarks of XANTÉ CORPORATION. Adobe, PostScript, PostScript 3, and the PostScript logo are trademarks or registered trademarks of Adobe Systems, Incorporated. Other brands and product names are trademarks or registered trademarks of their respective holders. XANTÉ CORPORATION, Post Office Box 16526, Mobile, AL 36616, tel: 334-473-6502, fax: 334-473-6503.

Circle 112 on card or go to www.macworld.com/getinfo

First cousins.



Say hello to the extended family. Looks aside, personality traits like comfort, functionality, and plug-and-play simplicity are all Kensington. Guess you could say the apple doesn't fall far from the tree... sorry, couldn't resist. To get the scoop on our USB products for the iMac™ visit www.kensington.com/imac or your favorite iMac dealer.

KENSINGTON®

Smart design at work.

Kensington is a registered trademark of ACCO World Corporation. All other registered and unregistered trademarks are the property of their respective owners. iMac is a trademark of Apple Computer, Inc. Kensington sells mice and trackballs that are compatible with Apple's Macintosh computers. No endorsement of these products by Apple Computer, Inc. is intended or implied. ©1999 Kensington Technology Group, a division of ACCO Brands, Inc.

Choose 1 at www.macworld.com/getinfo